UNIVERSITY OF MADRAS

THE CALENDAR FOR 1934-35

VOL. I

PART II

Ordinances, Regulations, Syllabuses and Text-books relating to University Examinations.

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1934

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THE CALENDAR FOR 1934.

JULY

1	Sun	
2	M	Half-yearly closing of Bank Accounts–(**Holiday**.)
3	Tu	Last day for receiving attendance certificates for the Examinations for Diploma in French and German. Last day for receipt of applications for Research Studentships.
4	W	
5	Th	
6	F	
7	S	
8	Sun	
9	M	Last day for receiving attendance certificates for B. S. Sc. Part II Examination.
10	Tu	
11	W	
12	Th	
13	F	
14	S	Meeting of Syndicate *
15	Sun	
16	M	M.L., B.S.Sc. Part II Examinations. †Last day of registration for September Intermediate, B.A., B.A. (Hons.) Preliminary, B.Sc., B.Sc (Hons.) Part I, B.Sc. (Hons) Part II (Subsidiary subjects) L.T., F.L., B.L. and Diploma in Midwifery Examinations held in September. Last day for receiving attendance certificates for Diploma in Midwifery Examinations. Publication of the results of Examination for Certificate in Librarianship.
17	Tu	
18	W	**University of Bombay, Incorporated, 1857.**
19	Th	
20	F	Examination for the Diploma in French.
21	S	Examination for the Diploma in German.
22	Sun	**University of Mysore, Incorporated, 1916.**
23	M	
24	Tu	
25	W	
26	Th	*Lunar Eclipse*
27	F	
28	S	*Last Saturday* (Holiday).
29	Sun	
30	M	
31	Tu	

* Provisionally fixed.

† Late applications with an additional fee of Re. 1 will be received up to the 20th July.

Note.—The dates of the meetings of the Syndicate Academic Council and Senate noted in the Almanac are only provisional.

AUGUST

1	W	
2	Th	*Convocation* (Main).
3	F	
4	S	
5	Sun	
6	M	Last date for the submission of the Return of Staff.
7	Tu	
8	W	
9	Th	
10	F	
11	S	Special Meeting of the Syndicate
12	Sun	
13	M	Publication of the results of B.S.Sc. Part II and Examinations for the Diplomas in French and German.
14	Tu	
15	W	Assumption Day.
16	Th	
17	F	
18	S	Meeting of Syndicate *
19	Sun	
20	M	Last day for receiving attendance certificates for September Arts Examinations, B.Sc., B.Sc. (Hons.) Part I, B.Sc. (Hons.) Part II (Subsidiary subjects) and L.T. Examinations.
21	Tu	
22	W	
23	Th	*Onam* (Holiday.)
24	F	*Avani Avittam* (Holiday).
25	S	*Last Saturday* (Holiday).
26	Sun	
27	M	
28	Tu	
29	W	
30	Th	Meeting of the Academic Council.
31	F	Last day for receipt of applications from Institutions for recognition, affiliation or approval in any University courses from the following Academic year.

* Provisionally fixed.

SEPTEMBER

1	S	*Sri Jayanti* (Holiday). Last day for receiving applications for pass certificates of Inter. Examination of March 1934.
2	Sun	
3	M	Publication of results of the M. L. Degree Examn.
4	Tu	
5	W	**University of Madras, Incorporated, 1857.**
6	Th	
7	F	
8	S	Meeting of Syndicate.* **The Indian Universities Act, 1904, came into force in the University of Madras, 1904.**
9	Sun	
10	M	Inter., B.A. (Part I) Examinations. Last day for receiving attendance certificates for Sept. F.L. and B.L. Examinations.
11	Tu	B.A. (Hons.) Prelimy., B.Sc. (Part I). and B.Sc. (Hons.) Part I, Examinations.
12	W	*Vinayaka Chathurthi* (Holiday).
13	Th	B.A. (Part II) and L.T. Degree Examinations.
14	F	B.A. (Part III), B.Sc. (Part II) and B.Sc. (Hons.) Part II (Subsidiary subjects) Examinations.
15	S	
16	Sun	
17	M	
18	Tu	
19	W	
20	Th	
21	F	
22	S	
23	Sun	
24	M	F. L. and B. L. Examinations.
25	Tu	
26	W	
27	Th	
28	F	
29	S	St. Michaelmas Day. *Last Saturday* (Holiday)
30	Sun	

* Provisionally fixed.

OCTOBER

1	M	**University of Patna, Incorporated, 1917.** Last day for receipt of applications for exemptions from *bona-fide* trained teachers to appear for Matric. Inter. and B. A. Examinations, and from other private candidates for Matric. and O. T. Examinations, March 1935.
2	Tu	
3	W	
4	Th	
5	F	
6	S	
7	Sun	
8	M	*Mahalaya Amavasai* (Holiday).
9	Tu	Diploma in Midwifery Examination. (D.G.O.)
10	W	
11	Th	
12	F	
13	S	Meeting of the Syndicate.*
14	Sun	**University of Punjab, Incorporated, 1882.**
15	M	Publication of results of Inter., B.A., B.A. (Hons.) Prelimy., B. Sc., B. Sc. (Hons.) Part I, B. Sc. (Hons.) Part II (Subsidiary subjects) and L.T. Examinations. †Last day of registration for Pre-Registration, First, Second and Final Medical Examinations and B. S. Sc. Part II.
16	Tu	
17	W	*Ayudah Puja* (Holiday).
18	Th	
19	F	
20	S	
21	Sun	
22	M	
23	Tu	
24	W	
25	Th	Meeting of the Senate.
26	F	
27	S	*Last Saturday* (Holiday).
28	Sun	
29	M	The Madras University Amendment Act of 1929 came into force.
30	Tu	
31	W	

* Provisionally fixed.

† Late applications with an additional fee of Re. 1 will be received up to the 20th October.

NOVEMBER

1	Th	
2	F	
3	S	
4	Sun	
5	M	Publication of results of F.L., B.L. and the Diploma in Midwifery Examinations.
6	Tu	*Deepavali* (Holiday).
7	W	
8	Th	
9	F	
10	S	
11	Sun	
12	M	
13	Tu	
14	W	
15	Th	† Last day of registration for O. T. Examinations. **University of Allahabad, Incorporated, 1887.**
16	F	Special Meeting of the Syndicate.
17	S	Meeting of the Syndicate.*
18	Sun	
19	M	
20	Tu	
21	W	*Karthikai Deepam.*
22	Th	
23	F	Last day for receiving attendance certificates for First, Second and Final Medical Examinations.
24	S	*Last Saturday* (Holiday).
25	Sun	
26	M	Last date for receiving attendance certificates for B. Sc. (Part II) Examination.
27	Tu	
28	W	
29	Th	
30	F	

* Provisionally fixed.

† Late applications with an additional fee of Re. 1 will be received up to the 20th November.

DECEMBER.

1	S	Last day of registration for B.S.Sc. (Part I.), M.Sc., Ph.D D. Sc., LL.D., M.O.L. & M.A. Research Examns. Publication in the *Gazette of India* in 1904, of the Chancellor's Declaration that the Body Corporate of the University of Madras had been constituted in accordance with the provisions of the Indian Universities Act, 1904. **University of Rangoon and Muslim University, Aligarh, Incorporated, 1920.** First, Second and Final M.B. & B.S., and B.S.Sc. Part II Examinations. Last day for receiving attendance certificates for Pre-Registration Examination.
2	Sun	
3	M	
4	Tu	
5	W	
6	Th	
7	F	
8	S	
9	Sun	
10	M	Pre-Registration Examination.
11	Tu	
12	W	
13	Th	
14	F	
15	S	Meeting of Syndicate * †Last day of registration for Matriculation, Inter., B.A., B.Sc., B.A. (Hons), M.A., B.Sc. (Hons.) Examinations.
16	Sun	*Vaikunta Ekadesi*, (Holiday). **University of Lucknow, Incorporated, 1920.**
17	M	
18	Tu	
19	W	
20	Th	Publication of the results of First and Second M.B. & B.S. and B.S.Sc. Part II Examinations.
21	F	
22	S	
23	Sun	
24	M	*Christmas Vacation* (Holiday).
25	Tu	Do. do. **Christmas day.**
26	W	Do. do.
27	Th	Do. do.
28	F	Do. do.
29	S	Do. do.
30	Sun	Do. do.
31	M	Do. do.

* Provisionally fixed.

† Late applications with an additional fee of Re. 1 will be received up to the 20th December.

THE CALENDAR FOR 1935

JANUARY

1	Tu	*Christmas Vacation* (Holiday), New Years Day. **Annamalai University, Annamalainagar, Incorporated, 1929.**
2	W	*Christmas Vacation* (Holiday).
3	Th	Office re-opens.
4	F	
5	S	Publication of results of Pre-Registration and Final M.B. & B.S. Examinations.
6	Sun	
7	M	*Ramzan* (Holiday).
8	Tu	Last date for receipt of attendance certificates for B.S.Sc. (Part I) Examination.
9	W	Last date for the submission of the Return of Staff.
10	Th	
11	F	
12	S	
13	Sun	*Bhogi Pandigai* (Holiday).
14	M	*Pongal Pandigai* (Holiday).
15	Tu	†Last day of registration for M.L., Engineering, Pre-Registration, First, Second and Final M.B. & B.S., M.D., M.S., D.G.O., B.Sc. Ag., L.T., F.L., B.L., and Diploma in Economics, Geography and Indian Music Examinations. Last date for receiving attendance certificates for M.D., M.S., Diploma in Midwifery Examinations. B. S. Sc. (Part I) Examination.
16	W	**University of Calcutta, Incorporated, 1857.**
17	Th	
18	F	
19	S	Meeting of Syndicate * Lunar Eclipse.
20	Sun	
21	M	
22	Tu	
23	W	**Andhra University, Waltair, Incorporated, 1926.**
24	Th	
25	F	
26	S	*Last Saturday* (Holiday).
27	Sun	
28	M	Publication of the results of B.S.Sc., Part I Examination.
29	Tu	
30	W	
31	Th	Last day for receipt of applications for admission to certificate in Librarianship course.

* Provisionally fixed.

† Late applications with an additional fee of Re. 1 will be received up to the 21st January.

FEBRUARY *

1	F	Last day for receiving applications for pass certificates of Intermediate Examination of September 1934.
2	S	
3	Sun	
4	M	
5	Tu	
6	W	
7	Th	
8	F	
9	S	
10	Sun	
11	M	
12	Tu	
13	W	
14	Th	Meeting of the Academic Council
15	F	
16	S	Meeting of Syndicate
17	Sun	
18	M	
19	Tu	
20	W	
21	Th	
22	F	
23	S	*Last Saturday* (Holiday).
24	Sun	
25	M	
26	Tu	
27	W	
28	Th	**Madras University Act VII of 1923, received the assent of the Governor of Madras.**

* Provisionally fixed.

MARCH

1	F *	Last day of registration for B.S.Sc., Part I Examination. Last day for receipt of applications for exemptions from *bone-fide* trained teachers to appear for Intermediate and B. A. Exams. September, 1935.
2	S	
3	Sun	*Mahasivarathri* (Holiday)
4	M	
5	Tu	
6	W	*Ash Wednesday.*—(Holiday).
7	Th	
8	F	
9	S	Last day for receiving attendance certificates for Intermediate, B.A., B.Sc., B.A. (Hons.), B.Sc. (Hons.) and O. T. Examinations.
10	Sun	
11	M	Last day for receiving attendance certificates for F.E. and B.E. Examinations.
12	Tu	
13	W	
14	Th	
15	F	
16	S	*Bakrid* (Holiday).
17	Sun	
18	M	Last day of receiving attendance certificates for Matriculation Examination.
19	Tu	Last day for receiving attendance certificates for B.Sc. Ag., L.T. and Diploma in Economics Examinations.
20	W	
21	Th	The Indian Universities Act, 1904, received the assent of the Governor-General.
22	F	
23	S	**Meeting of the Syndicate** *
24	Sun	
25	M	Matric., Inter., B.A., B. A. (Hons.), M.A., B.Sc., B.Sc. (Hons.), Engineering and O.T. Examinations. Last day for receiving attendance certificates for the Pre-Registration, First and Second M.B & B.S., Examinations.
26	Tu	
27	W	B.A. Part II. Examination.
28	Th	**Meeting of the Senate.** B.A. (Part III), B.Sc. (Part II). Examinations.
29	F	Madras University Act, VII of 1923 received the assent of the Governor-General.
30	S	
31	Sun	

* Provisionally fixed.

Note.—The scheme of time-table is subject to alteration

APRIL

1	M	**Hindu University, Benares, Incorporated, 1916.** Last day for registration for Diplomas in French and German Examinations. Last day for receiving attendance certificates for F. L., B. L., & B.S.Sc., Part I, Final M B. & B. S., Diploma in Indian Music and Geography, Examinations. L.T., B.Sc. Ag. First and Second Examinations, Pre-Registration, First and Second, M.B. & B.S., M.D. and M.S. Examinations.
2	Tu	
3	W	
4	Th	*Telugu New Year's Day* (Holiday).
5	F	
6	S	
7	Sun	
8	M	B.Sc. Ag. (Part II), and Final Examination, B. S.Sc. (Part I). Final M.B. & B.S., Diploma in Midwifery and Diploma in Economics, Geography, and Indian Music Examinations.
9	Tu	
10	W	
11	Th	
12	F	Sri Rama Navami.
13	S	*Tamil New Year's Day* (Holiday).
14	Sun	*Muharram* (Holiday).
15	M	F. L. and B. L. Examinations. Publication of results of Pre-Registration, First and Second M B.B.S Examinations
16	Tu	
17	W	
18	Th	*Easter* (Holidays).
19	F	*Good Friday* (Holidays).
20	S	*Easter* (Holidays).
21	Sun	,, (Holidays).
22	M	,, (Holidays).
23	Tu	,, (Holidays).
24	W	Office Re-opens (after Easter.) Publication of B.S.Sc. (Part I) Examination results.
25	Th	
26	F	**Andhra University, Inaugurated, 1926**
27	S	**Meeting of the Syndicate** * *Last Saturday* (Holiday.)
28	Sun	
29	M	
30	Tu	

* Provisionally fixed.

MAY

1	W	**The Madras University Act, 1923, came into force. University of Delhi, Incorporated, 1922.**
2	Th	
3	F	
4	S	
5	Sun	
6	M	**Accession of King George V, 1910.** Publication of results of Engineering, Final M.B., & B.S., M.D., M.S. and Diploma in Midwifery Examinations.
7	Tu	
8	W	
9	Th	
10	F	
11	S	
12	Sun	
13	M	Publication of results of B A. (Hons.) Final B.Sc. (Hons.) Part II (Main) and M.A., Examinations.
14	Tu	
15	W	Annamalai University Act, 1928, all Sections came into force. Last day for the submission of thesis for Diploma in Geography.
16	Th	
17	F	
18	S	
19	Sun	
20	M	Publication of results of Matric. and Intermediate, B.Sc. (Ag.) Degree Examinations.
21	Tu	Madras University—Appointment of the first Vice-Chancellor under the Act of 1923.
22	W	
23	Th	
24	F	*Empire Day* (Holiday).
25	S	*Last Saturday* (Holiday.)
26	Sun	**Queen Mary Born, 1867.**
27	M	Publication of results of B.A., B.A. (Hons.) Preliminary, B. Sc., B.Sc. (Hons.) Part I, B.Sc. (Hons). Part II (Subsidiary). L. T., O. T. and Diploma in Economics and Indian Music Examinations.
28	Tu	
29	W	
30	Th	Ascension Day.
31	F	

JUNE

1	S	Last day for registration for B.S.Sc (Part II)and Certificate in Librarianship Examinations.
2	Sun	
3	M	**King George V Born, 1865, (Holiday).** Publication of results of F.L. and B.L., and Diploma in Geography Examinations. **University of Nagpur, Incorporated, 1923.**
4	Tu	
5	W	
6	Th	
7	F	
8	S	
9	Sun	
10	M	
11	Tu	
12	W	
13	Th	
14	F	*Meeladi Nabi* (Holiday.)
15	S	Last day for receipt of applications for admission to Diploma classes in Indian Economics, Geography, Modern European Languages (Franch and German) and Indian Music.
16	Sun	
17	M	
18	Tu	
19	W	
20	Th	
21	F	
22	S	**Coronation day.**
23	Sun	**Birth day of H. R. H. The Prince of Wales (1894.)**
24	M	Last day for receiving attendance certificates for Certificate in Librarianship Examination.
25	Tu	
26	W	**Queen Mary Born, 1867.**
27	Th	
28	F	Certificate in Librarianship Examination
29	S	*Last Saturday* (Holiday).
30	Sun	

JULY

1	M	Half-yearly closing of Bank Accounts (**Holiday**).
2	Tu	Last day for receipts of attendance certificates for Diplomas in French and German Examinations. Last date for the receipt of applications for Research Studentships
3	W	
4	Th	
5	F	
6	S	
7	**Sun**	
8	M	Last day for receiving attendance certificates for B.S Sc., Part II Examination. Diploma in French Examination.
9	Tu	Diploma in German Examination.
10	W	
11	Th	
12	F	
13	S	
14	**Sun**	
15	M	M.L. and B.S Sc. Part II Examination. * Last day of registration for September Intermediate, B.A., B.A. (Hons.) Preliminary, B Sc., B Sc. (Hons.) Part I, B.Sc. (Hons.) Part II (Subsidiary,) L.T., F.L., B.L. and Diploma in Midwifery Examinations. Last day for receiving attendance certificates for Diploma in Midwifery Examination Publication of the results of the Examination for the Certificate in Librarianship.
16	Tu	
17	W	
18	Th	**University of Bombay, Incorporated, 1857.**
19	F	
20	S	
21	**Sun**	
22	M	**University of Mysore, Incorporated, 1916.**
23	Tu	
24	W	
25	Th	
26	F	
27	S	*Last Saturday* (Holiday).
28	**Sun**	
29	M	
30	Tu	
31	W	

* Late applications with an additional fee of Re. 1 will be received up to the 20th July.

AUGUST

1	Th	
2	F	
3	S	
4	**Sun**	
5	M	Last date for the submission of Return of staff.
6	Tu	
7	W	
8	Th	
9	F	
10	S	
11	**Sun**	
12	M	Publication of the results of B.S.Sc. Part II Examination and Examinations for the Diplomas in French and German.
13	Tu	
14	W	*Avani Avittam* (Holiday).
15	Th	Assumption Day.
16	F	
17	S	
18	**Sun**	
19	M	Last day for receiving attendence certificates for September Arts Examinations, B. Sc., B. Sc., (Hons). (Part I) and Part II (Subsidiary) and L. T. Examinations.
20	Tu	
21	W	
22	Th	*Sri Jayanti* (Holiday).
23	F	
24	S	
25	**Sun**	
26	M	
27	Tu	
28	W	
29	Th	
30	F	
31	S	*Last Saturday* (Holiday). Last day for receipt of applications from Institutions for recognition, affiliation or approval in any University Courses from the following Academic year.

SEPTEMBER

1	Sun	
2	M	*Vinayaka Chathurthi* (Holiday).
3	Tu	Last day for receiving applications for pass certificates of Inter. Examination of March 1935. Publication of the results of the M. L. Examination.
4	W	
5	Th	**University of Madras, Incorporated, 1857.**
6	F	
7	S	
8	Sun	**The Indian Universities Act, 1904, came into force in the University of Madras, 1904.**
9	M	Inter., B.A., (Part I) Examinations. Last day for receiving attendance certificates for Sept. F. L. and B. L. Examinations.
10	Tu	*Onam* (Holiday). B. A. (Hons). Prelimy., and B. Sc. (Part I), B. Sc. (Hons). Part I Examinations.
11	W	B.A. (Part II).
12	Th	L. T., Degree. B. A. (Part III) and B. Sc., (Part II) and B. Sc. (Hons). Part II. (Subsidiary) Examinations.
13	F	
14	S	
15	Sun	
16	M	
17	Tu	
18	W	
19	Th	
20	F	
21	S	
22	Sun	
23	M	F. L. and B. L. Examinations.
24	Tu	
25	W	
26	Th	
27	F	*Mahalaya Amavasai* (Holiday).
28	S	*Last Saturday* (Holiday).
29	Sun	St. Michaelmas Day.
30	M	

OCTOBER

1	Tu	**University of Patna, Incorporated, 1917.**
2	W	
3	Th	
4	F	
5	S	
6	**Sun**	*Ayuda Pujah* (Holiday).
7	M	
8	Tu	
9	W	
10	Th	
11	F	
12	S	
13	**Sun**	
14	M	**University of Punjab, Incorporated, 1882.** Diploma in Midwifery Examination
15	Tu	* Last day of registration for Pre-Registration, First, Second and Final Medical Examinations and B.S. Sc. (Part II.)
16	W	
17	Th	
18	F	
19	S	
20	**Sun**	
21	M	Publication of results of Inter., B.A., B.A. (Hons.) Prely., B.Sc., (Part I), B.Sc. (Hons.) (Part I) and Part II (Subsidiary) and L.T. Examinations.
22	Tu	
23	W	
24	Th	
25	F	
26	S	*Last Saturday* (Holiday). *Deepavali* (Holiday).
27	**Sun**	
28	M	
29	Tu	The Madras University Amendment Act of 1929 came into force.
30	W	
31	Th	

* Late applications with an additional fee of Re. 1 will be received up to 21st October.

NOVEMBER

1	F	
2	S	
3	Sun	
4	M	Publication of results of F. L. and B. L. and Diploma in Midwifery Examinations.
5	Tu	
6	W	
7	Th	
8	F	
9	S	
10	Sun	
11	M	
12	Tu	
13	W	
14	Th	
15	F	*Last day of registration for O. T. Examinations.
16	S	**University of Allahabad, Incorporated, 1887.**
17	Sun	
18	M	
19	Tu	
20	W	
21	Th	
22	F	
23	S	Last day for receiving attendance certificates for First, Second and Final Medical Examinations.
24	Sun	
25	M	Last day for receiving attendance certificates for B.S.Sc. (Part II) Examination.
26	Tu	
27	W	
28	Th	
29	F	
30	S	*Last Saturday* (Holiday).

* Late applications with an additional fee of Re. 1 will be received up to the 20th November.

DECEMBER

1	Sun	
2	M	Last day of registration for B.S.Sc. Part I., M.Sc., Ph.D., D.Sc., LL.D., M.O.L. and M.A. Degree in Research Examinations. Last day for receiving attendance certificates for the Pre-Registration Examination. Publication in the " Gazette of India " in 1904, of the Chancellor's Declaration that the Body Corporate of the University of Madras had been constituted in accordance with the provisions of the Indian Universities Act, 1904. **University of Rangoon and Muslim University, Aligarh, Incorporated, 1920.** First, Second and Final M B. and B.S.Sc, (Part II) Examinations.
3	Tu	
4	W	
5	Th	
6	F	
7	S	
8	Sun	Karthikai Deepam.
9	M	
10	Tu	Pre-Registration Examination.
11	W	
12	Th	
13	F	
14	S	
15	Sun	
16	M	**University of Lucknow, Incorporated, 1920.** *Last day of registration for Matric, Inter., B.A., B.Sc., and B. A. (Hons.), Prely. and Final M. A., B.Sc. (Hons.) Part I & II Examinations.
17	Tu	
18	W	
19	Th	
20	F	Publication of the results of First, and Second Medical Examinations and B.S.Sc. (Part II) Examination.
21	S	
22	Sun	
23	M	
24	Tu	*Christmas Vacation* (Holiday)
25	W	Do. do. **Christmas Day.**
26	Th	Do. do.
27	F	Do. do.
28	S	Do. do.
29	Sun	Do. do.
30	M	Do. do.
31	Tu	Do. do.

* Late applications with an additional fee of Re. 1 will be received up to the 20th December.

CHAPTER XXX.

Register of Matriculates.

Ordinances under 19 (*p*), *and* 31 (*a*) *of the Act.*

Maintenance of Register of Matriculates-Enrolment

1. The Syndicate shall maintain a register of Matriculates in which the names of the following classes of persons shall be registered:—

(*a*) Candidates who pass the Matriculation Examination of this University.

(*b*) Holders of completed Secondary School Leaving or European School Leaving Certificates declared eligible, and holders of other Certificates accepted by the Syndicate as qualifying, for admission to this University and candidates who have passed an examination accepted by the Syndicate as equivalent to the Matriculation Examination of this University, when admitted to a University course of study.

(*c*) Holders of any degree, title, diploma, or certificate, other than those specified in (*a*) or (*b*), on first admission to a University course of study.

(*d*) Persons, other than those specified in (*a*), (*b*) or (*c*), who with or without exemption from attendance certificates are permitted to appear for the first time for any examination of this University other than the Matriculation Examination.

(*e*) Persons other than those specified in (*a*), (*b*), (*c*) or (*d*), who are candidates for admission to a Research Degree of this University.

2. The Register of Matriculates maintained under the preceding Ordinance shall set forth, in respect of each Matriculate, the name in full, the name of father or guardian, age, religion, vernacular, school where educated, number and date of School-leaving certificate or European School-leaving certificate, Government issuing certificate,

accepted examination, date of passing and number of certificate, authority issuing certificate, institution entered, date of admission, and University examination for which he has been permitted to appear, or Research Degree for which he is a candidate.

CHAPTER XXXI.

ADMISSION OF HOLDERS OF S.S.L.C. AND E.S.L.C. TO UNIVERSITY COURSES OF STUDY.

Ordinances framed under section 19 (*p*) *of the Act.*

Secondary School Leaving Certificates.

(1) Holders of Completed Secondary School-Leaving Certificates may be admitted to University Courses of Study if they (a) shall have completed fifteen years of age on or before the first day of the examination qualifying for the certificate, unless specially exempted from the operation of this rule, and (b) shall have secured at the Public Examination the marks prescribed below, and been declared eligible for admission by the Syndicate.

(i) In the case of Certificates issued under the authority of the Government of Madras.

In Group A not less than 35 marks in English, and not less than 35 marks in the selected Second Language (except in the case of pupils who are exempted by the Director of Public Instruction from the study of the Second Language), and 130 marks in the following four subjects taken together: (1) Elementary Mathematics, (2) Elementary Science, (3) Outlines of History of England and India and Geography, and (4) one of the following subjects of Group C, *viz.*, Algebra and Geometry, Physics, Chemistry, Botany, Physiology, Geography, History of England and India, a Third Language, Indian Music, Book-keeping, Commercial Practice, Domestic Science, *Agriculture, House-keeping and Nursing, Needlework, Dress-making and*

Embroidery, Lace-work, and Crochet, and Precis-writing and Indexing; the marks being not less than 35 per cent. in each of any two of these four subjects and not less than 25 per cent. in each of the other two:

Provided that a certificate holder who secures in the aggregate not less than *210* marks in the six subjects, or not less than *175* marks if he has been exempted from the study of Second Language under Group A, but fails in not more than two subjects by a deficiency of not more than one mark in each subject, shall be declared eligible for admission to University Courses of Study.

There shall be a Moderation Board appointed by the Syndicate to consider hard cases.

(ii) In the case of certificate issued under the authority of Indian States, (*Cochin and Hyderabad*) eligibility shall be determined by the application of the above rules to the subjects included in the scheme of the examination with the approval of the Syndicate.

(iii) *In the case of Certificates issued under the authority of the Travancore Government, eligibility shall be determined by the following rule:—*

Not less than 35 marks in English, not less than 35 marks in the Second Language, not less than 35 marks in any two and not less than 25 marks in the remaining of the following subjects—Elementary Mathematics, Elementary Science and History and Geography—provided that a certificate holder who secures in the aggregate not less than 175 marks in the five subjects, or not less than 140 marks, if he has been exempted from the study of the Second Language, but fails in not more than two subjects by a deficiency of not more than one mark in each subject, shall be declared eligible for admission to University courses of study.

(2) A candidate for admission to University Courses of Study who in any year fails to qualify by reasons of deficiency in any subject or subjects in which he has undergone examination shall be required to appear again at the Public Examination in all the six (or five) subjects, and his eligibility shall be determined by the marks obtained by him at his last appearance.

(3) No holder of a certificate declared ineligible on a scrutiny shall be declared eligible on a rescrutiny according to Ordinances prescribed after the first scrutiny.

(4) A complete list of certificate holders declared eligible for admission to University Courses of Study shall be published in the *Fort St. George Gazette*, and a copy of the list shall be furnished to each Principal of a Constituent or Affiliated College.

European School Leaving Certificate.

1. Holders of completed Madras European School Leaving Certificates *or* the Bangalore European High School Certificates shall be declared eligible for admission to University courses of study if they have secured a "pass" at the European School Leaving Certificate Examination, Madras, *or* the European High School Examination, Bangalore, respectively.

2. A candidate for admission to University courses of study, who in any year fails to qualify for admission by reason of deficiency in any subject or subjects in which he has undergone examination, shall be required to appear again at the Public Examination and secure a pass.

3. A complete list of certificate holders declared eligible for admission to University courses of study shall be published in the *Fort St. George Gazette* and a copy of the list shall be furnished to the Principals of Constituent and Affiliated Colleges.

Transitory Ordinance.

The eligibility of Holders' of Certificates who completed the European School Leaving Certificate

Examination held in November 1932, for admission to University courses will be decided by either the Ordinances which were in force prior to the 18th February 1933 or the new Ordinances framed on the 18th February 1933.

CHAPTER XXXII.

ADMISSION TO COURSES OF STUDY.

Ordinances under Section 19 (*p*) *and* 31 (*a*) *of the Act.*

Registration as Matriculates

1. No person shall be permitted to enter upon a University course of study for the first time unless he gets his name registered in the Register of Matriculates maintained by the Syndicate. Every applicant for registration shall pay to the University such registration fee as may be prescribed.

Conditions of admission to the Intermediate course

2. Admission to the course of study for the Intermediate Examination shall be granted only to the following classes of students:—

(*i*) Persons who have passed the Matriculation Examination of this University.

(*ii*) Holders of completed Secondary School Leaving Certificates and of completed European School Leaving Certificates issued under the authority of the Government of Madras or of the Indian States of Travancore, Cochin and Hyderabad, declared eligible for admission to a University course of study according to the rules and directions which the Syndicate may prescribe from time to time.

(*iii*) Holders of completed Secondary School Leaving Certificates and of European School Leaving Certificates, issued by such other authority as may be accepted by the Syndicate, who have passed the examination qualifying for

the certificate or who have been declared eligible by such authority for admission to a University course of study in the Province or State which issues the certificate, provided their certificates comply with such rules of eligibility as may be laid down by the Syndicate of this University.

(*iv*) Holders of Cambridge and Oxford School certificates who are eligible for admission to their respective Universities, and whose certificates satisfy the conditions laid down by the Syndicate from time to time.

(*v*) Persons who have passed the Matriculation Examination of any other Indian University or any other public examination, *accepted by the Syndicate as equivalent* to the Matriculation Examination of this University for admission to a University course of study.

Conditions of admission to the Courses for Oriental Titles

3. The conditions under which students may be admitted to the courses for Oriental Titles shall be as follows:—

Siromani & Vidvan.—

No person shall be admitted to the courses of study for the Siromani and Vidvan Examinations with Sanskrit as one of the two languages, unless he has passed the admission test conducted by the Educational Department of the Government of Madras, and obtained from the department a certificate of fitness for the course he proposes to take up.

In the case of candidates for the Vidvan Title selecting Tamil alone, or a Dravidian Language, Marathi or Oriya as the main language, the admission test shall consist of the two papers set for the Intermediate Examination in Arts and Science in the corresponding Indian language, provided that the question on translation in the three hours paper for the Intermediate Examination shall, for the admission test, be replaced by questions on paraphrase or Composition in the selected language. Candidates obtaining not less than 40 per cent. of the total

number of marks in the two papers taken together shall be certified as eligible for admission to the respective Vidvan courses. A candidate who has passed in Part II of the Intermediate Examination in Arts and Science thereof, shall, without any further admission test, be admitted to the Vidvan course, provided that the language selected as the main or as the only language for the course is identical with the language in which he passed Part II of the Intermediate Examination.

Afzal-ul-Ulama & Munshi-i-Fazil.—

No person shall be admitted to the courses of study prescribed for the titles of Afzal-ul-Ulama and Munshi-i-Fazil, unless he produces a certificate of fitness from the head of the approved Oriental College which he proposes to enter.

It shall be competent for the Syndicate to recognize the admission tests of other Universities or examinations conducted by Indian States as qualifying for admission to the Vidvan and Siromani Courses of this University.

Recognition of Examinations of Other Universities

4. The Examinations of other Indian Universities and of duly constituted Boards of Secondary and Intermediate Education may, in individual cases and on their merits, be recognised as equivalent to the corresponding examinations of this University, subject to the following conditions:—

Intermediate Examination.—

If the candidate has passed in the First or Second Division.

B.A. or B.Sc. Degree Examination.—

If the candidate has passed in the first or second division in the whole examination, or in each Part of the Examination if there are Parts, or, in the alternative, obtained not less than 45 per cent. of the aggregate marks for the whole examination.

Provided, however, it shall be competent for the Syndicate to dispense with a strict compliance with the above condition, in special cases, for purposes of admission to professional degree courses of this University, on the recommendation of the Standing Committee of the Academic Council.

Notwithstanding anything contained in this Ordinance, (1) the examinations of the Andhra and Annamalai Universities shall be recognized for purposes of admission to courses of study and examinations in professional subjects in the Madras University not provided for in those Universities till the end of the academic year 1934-35 and for purposes of admission to the M.A. Degree examinations of 1934 and 1935. No recognition fee shall be levied in such cases;

(2) the Degrees of the Mysore University shall be recognised for purposes of admission to the Law and Teaching courses of this University till the end of the Examinations of 1935.

CHAPTER XXXIII.

Conduct of Examinations.

Ordinances under Section 31 (b) of the Act.

Place of Examinations

1. (a) All examinations shall be held in Madras and in such other places as may be fixed by the Syndicate. A list of the centres at which examinations will be held shall ordinarily be published annually in the Gazette in the preceding April.

(b) When there are more centres than one for a written examination question papers shall be given out to candidates on the same day and at the same hour in every centre.

Gazetted holidays *dies non*

2. Gazetted holidays shall be considered *dies non* for the purposes of the University Examinations, but the Syndicate may, for special reasons, decide to hold examinations on such holidays.

3. The following Examinations shall be held twice in the academical year:—

1. Intermediate.
2. B.A. Degree.
3. B.A. (Honours) Preliminary.
4. B.Sc. Degree.
5. B.Sc. (Honours)—Part I and Part II—Subsidiary Subjects only.
6. L.T.
7. Law—F.L. and B.L.
8. Pre-Registration Examination (Medical).
9. M.B. & B.S. Examinations.
10. B.S.Sc.—Parts I and II.

The other examinations shall be held once a year.

Standard of Question papers

4. The papers set in any subject shall be such as a candidate of decided ability well prepared in the subject can reasonably be expected to answer within the time allotted.

Nature of Questions

5. No question shall be put at any University examination calling for a declaration of religious belief, or profession or political views on the part of the candidate, and no answer given by any candidate shall be objected to on the ground of its giving expression to any particular form of religious belief, profession or political views.

Conduct of Examinations

6. All examinations, except practical and *viva voce* examinations, shall be conducted by means of printed, typed or written papers to be set and answered, except in the case of Indian languages, and languages for the O. T. Examination, in English unless otherwise stated therein.

Examination Boards

7. Examination Boards shall, whenever there are candidates, be appointed annually by the Syndicate for the following subjects or groups of subjects.

i. English.
ii. Greek and Latin.
iii. French
iv. German.
v. Sanskrit.
vi. Marathi.
vii. Hindi.
viii. Oriya.
ix. Burmese
x. Sinhalese.
xi. Hebrew.
xii. Arabic, Persian and Urdu.
xiii. Tamil.
xiv. Telugu.
xv. Kanarese.
xvi. Malayalam.
xvii. Mathematics.
xviii. Physics.
xix. Chemistry
xx. Botany.
xxi. Zoology including Physiology.
xxii. Geology.
xxiii. Anthropology.
xxiv. Philosophy.
xxv. History and Politics.
xxvi. Economics.
xxvii. Geography.
xxviii. Teaching.
xxix. Law.
xxx. Medicine.
xxi. Sanitary Science
xxxii. Engineering.
xxxiii. Agriculture.
xxxiv. Veterinary Science.
xxxv. Commerce.
xxxvi. Indian Music.
xxxvii. Western Music.
xxxviii. Drawing and Architecture.

The Syndicate may appoint separate Boards of Question-Paper Setters and Boards to conduct examinations, as it deems fit. Joint or separate Boards may be appointed to conduct different examinations.

Chairmen of Boards and their duties.

8. The Syndicate shall appoint a Chairman for each Board, who shall at the conclusion of every examination forward to the Syndicate a report on the manner in which the examination has been conducted.

Special Boards.

9. The Syndicate may appoint special Boards of Examiners to supervise the Matriculation Examination and the Intermediate Examination in Arts and Science.

Approval and Publication of Results

10. The Examination Boards shall report to the Syndicate the results of all examinations conducted or supervised by them.

11. The Syndicate shall have power to approve and publish the results.

Manner of publication of results of successful candidates

12. In the Examinations for Degrees in Law, Medicine, Engineering, Agriculture and Commerce and for the final part of the Degrees of the B.A. (Honours) and B.Sc. (Honours), the names of all successful candidates shall be published in the order of proficiency. In the case of the other Examinations, the names of candidates who are placed in the First Class shall be published in the order of proficiency; in the case of the B.A. and B.Sc. Degree Examinations, the names of candidates who are placed in the second class shall also be published in the order of proficiency. The names of other successful candidates shall be published in the order in which they were registered for the examination.

Pass Certificates

13. A certificate signed by the Registrar shall be given to each successful candidate at an examination other than examination for a degree, title or diploma. The certificate shall set forth the date of the examination, the subject in which the candidate was examined, the class in which he was placed, and the subjects, if any, in which he gained distinction in accordance with the Regulations.

Diplomas

14. A Diploma under the seal of the University and signed by the Vice-Chancellor shall be presented at a Convocation to each successful candidate at an examination for a degree, title or diploma. The diploma shall set forth the date of the examination, the subjects in which the candidate was examined, the class in which he was placed, and the subjects, if any, in which he gained distinction in accordance with the Regulations.

CHAPTER XXXIV.

Fees.

Statute
Examination Fees

1. Candidates for examinations, Diplomas and Degrees shall pay the following fees:—

		Rs.
(*a*) *Examination Fees.*—		
Matriculation Examination	..	15
Intermediate Examination—		
Whole Examination	..	25
Part I only	..	10
Part II only	..	8
Part III only	..	18
B.A. Degree Examination—(New Regulations and under Transitory Regulation 15 of Chapter LIX).		
First appearance—		
Whole Examination or any part or parts	..	48
Subsequent appearance—		
Whole Examination	..	48
Part I	..	20
Part II	..	10
Part III	..	24
B.A. (Honours) Degree Examination—		
Preliminary	..	15
Final	..	60
Science Branches—(Physical or Natural Science).		
Subsidiary subject	..	30
Main subject	..	30
M.A. Degree Examination	..	60
Degree of Doctor of Philosophy	..	150

	Rs.
B.Sc. Degree Examination—	
Part I ..	15
Part II ..	36
B.Sc. (Honours) Degree Examination—	
Part I ..	15
Part II—	
Subsidiary subject or subjects ..	30
Main subject ..	30
Any other Branch ..	60
Degree of Master of Science ..	100
Degree of Doctor of Science ..	150
B.Sc. (Ag.) Degree Examination—	
Part I ..	25
One subject only ..	15
Part II ..	40
(Revised Regulations.)	
First Examination	20
Second Examination ..	30
Final Examination ..	30
One subject only for any Examination ..	15
L.T. Degree Examination ..	20
B.L. Degree Examination—	
F.L. Examination ..	40
For each division	25
B.L. Degree Examination ..	50
For each division—	
(i) Hindu and Muhammadan Law ..	20
(ii) Property and Land Tenures ..	25
(iii) Criminal Law and Evidence ..	25
M.L. Degree Examination ..	100
LL.D. Degree ..	150

	Rs.
Pre-Registration Examination (for M.B., B.S. Degree Course)—	
First appearance—either whole or in Part ..	30
Subsequent appearance—Each subject ..	15
M.B. & B.S. Degree Examination—	
First M.B. & B.S. Examination—	
Whole Examination ..	45
Part I only ..	15
Part II only ..	35
Separate subjects after first appearance—	
Organic Chemistry ..	15
Anatomy or Physiology ..	20
Second M.B. & B.S. Examination—	
Whole Examination ..	60
Part I only ..	20
Part II only ..	50
Separate subjects after first appearance—	
Pharmacology (Part I) ..	20
Ophthalmology (in Part II) ..	15
Hygiene or General Pathology with Bacteriology (Part II) ..	20
Final M.B. & B.S. Degree Examination—	
First appearance—	
Whole Examination ..	60
Part I only—Forensic Medicine ..	15
Part II only ..	50
Subsequent appearance—	
Medicine or Surgery ..	20
Obstetrics and Gynaecology ..	15
M.D. or M.S. Degree Examination ..	150
Diploma in Midwifery (D. G. O.) ..	50

	Rs.
B.S.Sc. Degree Examination—	
Part I ..	50
Part II ..	75
B.E. Degree Examination—	
F.E. Examination ..	30
B.E. Degree Examination ..	50
Oriental Titles Examination—	
Entrance test to Vidvan course (Dravidian Main) ..	3
Preliminary Examination ..	12
Final Examination ..	12
Certificates of Proficiency Examination ..	10
Degree of Master of Oriental Learning ..	50
Examination for the Diploma in Economics ..	30
Examination for the Diploma in Modern European Languages (French or German) ..	12
Examination for the Diploma in Geography ..	30
Subsequent appearance—Dissertation only ..	15
Examination for the Diploma in Indian Music ..	12
Examination for the Certificate in Librarianship.	5

(*b*) *Degree or Diploma Fee*—

Diploma fee (for taking Degree at a Convocation in person) ..	3
Degree *in absentia* fee (including Diploma fee) ..	13
M.A. Degree fee ..	25

provided that the above fees shall not be levied in the case of Honorary Degrees.

Statute. Examination Fees (Old Regulations).

2. The following fees shall be in force until such time as the Examinations under the Old Regulations cease to be held:—

B.A. Degree Examination (Old Regulations)—

First appearance—

Whole Examination or either Part .. 40

Subsequent appearance—

Whole Examination .. 40

Either Part .. 25

Statute Recognition or Affiliation fee.

3. Colleges applying for recognition or affiliation shall pay the following fees—

First affiliation or recognition. At the rate of Rs. 150 for each member of the Inspection Commission appointed.

Further affiliation or recognition. At the rate of Rs. 100 for each member of the Inspection Commission appointed.

Statute Registration of Graduates fee.

4. Graduates applying for Registration in the List of Registered Graduates shall pay a fee of Rs. 5.

(*Ordinance*).

5. *Other Fees*—

		Rs.
I. (1) For registration as a Matriculate	..	2
(2) For undergoing the Diploma Course in Economics (two years' course)	..	37½ per year.
(3) For undergoing the Diploma Course in Economics (one year course)	..	75

	Rs.
(4) For undergoing the Diploma Course in German (one year course) ..	45
provided, however, it shall be competent for the Syndicate to admit certain classes of applicants under the conditions enumerated in the proviso to Regulation 19 of Chapter LVIII, at a concession rate of Rs. 30 per candidate.	
(5) For undergoing the Diploma Course in French (one year course) ..	45
provided, however, it shall be competent for the Syndicate to admit certain classes of applicants under the conditions enumerated in the proviso to Regulation 19 of Chapter LVIII, at a concession rate of Rs. 30 per candidate.	
(6) For undergoing the Certificate Course in Librarianship (about three months) ..	20
(7) For undergoing the Diploma course in Geography (one year course) ..	75
(8) For undergoing the Diploma course in Indian Music (one year course) ..	30
II. (1) For considering application for exemption from the production of attendance certificates ..	5
(2) For considering application for recognition of an examination of another University or examination conducted by other bodies outside the jurisdiction of the University ..	5
(3) For scrutiny of Secondary School-Leaving Certificates of candidates who sat for the examination prior to 1916 and from those who sat for the examination within the Madras Presidency and outside the University area	3

	Rs.
(4) For scrutiny of Madras European School Leaving Certificates of candidates who sat for the examination prior to 1927, and of those who sat for the examination outside the University area after 1927 ..	3
(5) For considering application for recognition of change of name ..	10
(6) For obtaining a duplicate Diploma or Certificate ..	5
(7) For obtaining a Provisional Certificate..	2
*(8) For application for Intermediate Certificate received by the Registrar after the prescribed date ..	3
(9) For obtaining a Migration Certificate ..	2
(10) For issue of a certified extract from the Registers or Records of the University ..	1
(11) (*a*) For supplying marks to a candidate obtained at any Examination other than B.A. Degree Examination ..	2
(*b*) For supplying marks to a candidate obtained at the B.A. Degree Examination for each Part	2
(*c*) For supplying marks to a candidate obtained at the Intermediate Examination for each Part passed separately	2
(*d*) For supplying detailed marks to a candidate obtained at Examinations—for the details of each subject comprising a minimum (additional fee)	1

*Dates will be notified each year in the Fort St. George Gazette when publishing the results.

	Rs.
(12) For checking the addition of the marks in each paper of a candidate for any University Examination (for each paper) ..	5
(13) (*a*) For supplying to Principals of Colleges marks of all the successful candidates at the Matriculation and Intermediate Examinations (for each examination of the year) ..	20
(*b*) For supplying to Principals of Colleges marks of all the candidates (passed and failed) from a particular College for the B.A., B.Sc., B.A. (Hons.), B.Sc. (Hons.), F.L., B.L., M.B. & B.S., L.T., F.E., B.E., B.Sc. Ag., *or* any other examination, *for fifty candidates or less.*	Annas 8 per candidate subject to a maximum fee of Rs. 10 for an examination, for fifty candidates or less.
(*c*) For supplying to Principals of Colleges detailed marks in each subject comprising a minimum (for each candidate) ..	1

CHAPTER XXXV

DATES FOR PAYMENT OF EXAMINATION FEES AND SUBMISSION OF CERTIFICATES, DATES OF COMMENCEMENT OF EXAMINATIONS, AND DATES OF PUBLICATIONS OF RESULTS OF EXAMINATIONS.

Ordinance
Dates of Examinations, and dates of submission of applications and attendance certificates, and dates of publications of results.

The latest dates on which fee for examinations shall be payable, and applications for admission thereto and certificates to be produced by candidates are to be submitted to the Registrar in the forms prescribed, the dates on which examinations shall begin, and the dates on which the results of the examinations shall be published at the Senate House shall be:—

Examinations.	Last date for payment of fees and for submitting applications.	Last day for submitting certificates.
Matriculation... ...	December 15 ...	March 16 ...
Intermediate ...	December 15 ... or July 15 ...	March 9 ... or August 19 ...
B.A. Part I ...	December 15 ... or July 15 ...	March 9 ... or August 19 ...
Part II	Do. ...	Do.
Part III	Do. ...	Do. ...
B.A.(Hons.) Preliminary	December 15 ... or July 15 ...	March 9 ... or August 19 ..
B.A. (Hons.) Final ...	December 15 ...	March 9 ..
M.A.	Do. ...	...
M.A. in Research ...	December 1 ...	...
B. Sc.— Part I ...	December 15 ... or July 15 ...	March 9 ... or August 19 ...
Part II ...	Do. ...	Do. ...
B.Sc. (Hons.)— Part I ...	December 15 ... or July 15 ...	March 9 ... or August 19 ...
Part II (Main) ...	December 15 ...	March 9 ...

Date of commencement of examinations.	Date of publication of results.
4th Monday in March.	3rd Monday in May.
4th Monday in March, or 2nd Monday in September.	3rd Monday in May, or 3rd Monday in October.
4th Monday in March, or 2nd Monday in September.	4th Monday in May, or 3rd Monday in October.
Friday following the 4th Monday in March, or Wednesday following the 2nd Monday in September.	Do.
Monday following the 4th Monday in March, or Thursday following the 2nd Monday in September.	Do.
4th Monday in March, or 2nd Monday in September.	4th Monday in May, or 3rd Monday in October.
4th Monday in March.	2nd Monday in May.
Do.	Do.
...	...
4th Monday in March, or 2nd Monday in September.	4th Monday in May, or 3rd Monday in October.
Monday following the 4th Monday in March, or Thursday following the 2nd Monday in September.	Do.
4th Monday in March, or 2nd Monday in September.	4th Monday in May, or 3rd Monday in October.
4th Monday in March.	2nd Monday in May.

Examinations.	Last date for* payment of fees and for submitting applications.	Last day for submitting certificates.
B.Sc. (Hons.)—		
Part II (Subsidiary)...	December 15 ... or July 15 ...	March 9 ... or August 19 ...
M. Sc. ...	December 1 ...	...
Ph. D. or D. Sc. ...	December 1 ...	...
B.Sc. in Agriculture— (Old Regulations)*		
Part I	January 15 ...	March 19 ...
Part II	Do. ...	Do. ...
B.Sc. in Agriculture— (Revised Regulations).		
First Examination ...	January 15 ...	March 19 ...
Second Examination...	Do. ...	Do. ...
Final Examination ...	Do. ...	Do. ...
L. T.	January 15 ... or July 15 ...	March 19 ... or August 19 ...
Law—		
F.L. and B.L.	January 15 ... or July 15 ...	1st Monday in April, or 2nd Monday in Sept.
M. L.	January 15 ...	...
LL.D.	December 1 ...	...
Medicine—		
M.B. & B.S.— Pre-Registration Examination.	October 15 ... or January 15 ...	Eight days before the date of Examination.
First and Second Examinations.	Do.	Do.
Final Examination ...	Do. ...	Do.

* Will be in force to the end of the year 1934-35.

Date of commencement of examinations.	Date of publication of results.
Monday following the 4th Monday in March, or Thursday following the 2nd Monday in September.	4th Monday in May, or 3rd Monday in October.
...	...
...	...
1st Monday in April.	3rd Monday in May.
2nd Monday in April.	Do.
1st Monday in April.	3rd Monday in May.
Do.	Do.
2nd Monday in April.	Do.
April 1, or Thursday following the 2nd Monday in September.	4th Monday in May, or 3rd Monday in October.
3rd Monday in April, or 4th Monday in September.	1st Monday in June, or 1st Monday in November.
3rd Monday in July	1st Monday in September.
...	...
December 10, or 1st Monday in April	January 5, or 3rd Monday in April
December 1, or 1st Monday in April	December 20, or 3rd Monday in April
December 1, or 2nd Monday in April	January 5, or 1st Monday in May.

Examinations.	Last date for payment of fees and for submitting applications.	Last date for submitting certificates.
M.D. or M.S. ...	January 15 ...	January 15 ...
Diploma in Midwifery (D.G.O.)	January 15 ... or July 15	January 15 ... or July 15 ...
B.S.Sc.— Part I	December 1 ... or March 1 ...	Monday of the week preceding the Examination.
Part II	June 1 ... or October 15 ...	Do.
Engineering ...	January 15 ...	2nd Monday in March
Oriental Titles— Entrance test to Vidvan course.	November 15 ...	...
Preliminary ...	Do. ...	March 9 ...
Final	Do. ...	Do. ...
Optional Division for Certificates of Proficiency.	Do. ...	Do. ...
M.O.L. ...	December 1 ...	...
Diploma in Economics ...	January 15 ...	March 19 ...
Diploma in French ...	April 1 ...	July 1 ...
Diploma in German ...	Do. ...	Do. ...
Certificate in Librarianship ...	June 1 ...	4th Monday in June.
Diploma in Indian Music...	January 15 ...	1st Monday in April..
*Diploma in Geography ...	Do. ...	Do. ...

* Last date for submission of thesis, May 15.

Date of commencement of examinations.	Date of publication of results.
1st Monday in April.	1st Monday in May.
2nd Monday in April, or 2nd Monday in October.	1st Monday in May, or 1st Monday in November.
2nd Monday in January, or 2nd Monday in April.	4th Monday in January, or 4th Monday in April.
3rd Monday in July, or December 1.	2nd Monday in August, or December 20.
4th Monday in March.	1st Monday in May.
Same day as Part II—Second Language—Intermediate Examination, in March.	4th Monday in May.
4th Monday in March.	Do.
Immediately after the Preliminary Examination.	Do.
Immediately after the Final Examination.	Do.
.	...
2nd Monday in April	4th Monday in May.
2nd Monday in July	2nd Monday in August.
Tuesday following the 2nd Monday in July.	Do.
4th Friday in June.	3rd Monday in July.
2nd Monday in April.	4th Monday in May.
Do.	1st Monday in June.

Provided that in the case of the March-April Examinations,

(1) If the fourth Monday in March falls in the week preceding Easter Day, the Matriculation Examination shall commence on the previous Saturday, the Intermediate, B.A., B.Sc., B.A. (Honours) Preliminary, B.Sc. (Honours) Part I, B.A. (Honours) Final, M.A. and B.Sc. (Honours) Part II Examinations, the examinations in Engineering, and the Oriental Titles Examinations shall commence on the previous Tuesday.

(2) Thursday, Friday and Saturday before Easter Day and Easter Monday and Easter Tuesday shall be *dies non.*

(3) The dates for the commencement of (a) the examinations in Optional Groups and in each main and in each subsidiary subject of Optional Groups in Science subjects in the courses for the B.A. Degree, and courses for the B.Sc. (Pass) and (Honours) Degree, (b) the examinations in Group (v) of the B.A. Degree Examination and in Branch v of the B.A. (Honours) Degree Examination and (c) the examinations in Part I of B Sc. (Pass) and (Honours) and of B.A. (Honours) Preliminary shall be those notified by the Syndicate in the preceding February.

(4) The Syndicate shall so fix the dates of the Vidvan Preliminary and Final Examinations, and the other Degree Examinations, as to avoid, as far as may be practicable, the setting of duplicate sets of question papers in the same subject: such revised dates for the examinations shall be published by the Syndicate in the Fort St. George Gazette in the preceding February.

Provided also that applications for admission to Examinations received within a period of five days after the dates specified above will be accepted on payment of a fee of Rupee one per candidate.

Provided also that it shall be competent for the Registrar to publish the results on any day previous to or succeeding the dates mentioned, if ordinarily at least three days' notice is given to the public of the change.

CHAPTER XXXVI (Regulations).

TRANSFER AND TERM OR ANNUAL CERTIFICATES.

Transfer Certificates.

1. No student who has previously studied in any recognized school or college shall be admitted to a college unless he presents a transfer certificate showing—

(*a*) the name of the student in full,

(*b*) the date of birth as entered in the admission register,

(*c*) the dates on which he was admitted to and on which he left the institution,

(*d*) the class in which he studied at the time of leaving it,

(*e*) the subjects or portions thereof studied by him while enrolled,

(*f*) if it be the time when annual promotions take place whether he is qualified for promotion to a higher class,

(*g*) that he has paid all fees or other moneys due to that institution in respect of the last term in which he was enrolled, and a certificate of Medical Inspection, if any, from the school in which he last studied.

No student shall be enrolled pending the production of such certificate. Every such certificate shall be endorsed with the admission number under which the student is enrolled and shall be filed for reference and inspection.

Certificates of Medical Inspections.

2. A student admitted to a College shall be required to undergo a Medical Inspection within the first term of the first year of the Intermediate Course and a re-inspection during the first term of the Junior B.A. Course. A student proceeding from one College to another shall be required to produce, along with his Transfer Certificate, the Medical Certificate given in the previous College. Before admission to the B.A. Course the student shall be required to produce his Certificate of Medical Inspection given during the Intermediate Course.

Such medical inspection shall be conducted by a Doctor possessing the University Qualification of L.M. & S., or M.B. & B.S., or a registrable British Qualification.

In a case where a College has difficulty in arranging for Medical Inspection, a report should be made to the Syndicate by the College in question.

Issue of Transfer certificates

3. A student applying for a transfer certificate during a college term on any day of which he has been enrolled, or applying not later than the fifth working day of the college term immediately following shall forthwith be given such certificate upon payment of all fees or other moneys due, or of such portion thereof as the Principal may see fit to demand, for the college term in which he was enrolled.

A student applying for such certificate after the fifth working day of the college term immediately following that during which he has been last enrolled shall forthwith be given it on payment of (1) all fees or other moneys due, or of such portion thereof as the Principal may see fit to demand, in respect of the college term in which he *was* last enrolled, and (2) an additional fee of Rs. 3 at the option of the Principal.

Provided that, when a student has been enrolled at favourable fee rates, he shall be liable for such rates only.

No student shall be considered to have been enrolled in any college term unless he has attended the college and received instruction for at least one day of that college term or has paid the fees or portions thereof prescribed.

In the case of a student who has been a candidate for a University Examination, the results of which have not been published before the beginning of the college term the eleventh day after the results of that examination have been announced at the Senate House shall be counted for him the first working day of the college term so far as the grant of a transfer certificate is concerned.

In the event of a Principal refusing or delaying to give a transfer certificate to which a student may be entitled the student shall have right of appeal to the Syndicate.

Expulsion of student from College

4. If any student is expelled from a constituent or an affiliated college, intimation of the fact of expulsion, with a statement of the reasons therefor, shall be given forthwith by the Principal (*a*) to the parent or guardian of the student, (*b*) to the Syndicate; intimation to the Syndicate shall be accompanied by the transfer certificate of the student. The Syndicate, on the application of the student or his parent or guardian, may after making such enquiry as it deems proper deliver the certificate to the student with any necessary endorsement or withhold it temporarily or permanently.

Academic year

5. The academic year for colleges affiliated in Arts, Teaching and Law shall consist of three terms, which shall ordinarily begin and end as follows:—

First term—June to September, closing with the Michaelmas holidays.

Second term—October to December, closing with the Christmas holidays.

Third term—January to April, closing with the Summer holidays.

Combination of attendances

6. A student shall ordinarily qualify for the annual certificate in one and the same college, but in special cases the Syndicate may allow attendance in different colleges to be combined for the purposes of the annual certificate.

7. A student in the Arts Courses desirous of transfer from one college to another shall apply to the *Syndicate* for permission to combine attendances at the two colleges, for purposes of the annual certificate. Such applications shall be submitted in every case prior to making the desired transfer and shall furnish valid reasons for the change proposed. This rule applies to a transfer during a term as well as to a transfer at the end of an academic year when an additional term is proposed to be kept in a different college. An application to combine attendances shall invariably be accompanied by (1) the written consent to the proposed transfer of the Principal of the College in which the student is studying and (ii) the written promise of admission from the Principal of the College which he proposes to join, together with an assurance countersigned by the latter Principal that the student, if permitted by the Syndicate to combine attendances, will, in the main, be able to continue in his college the course of study already commenced by the student under each part of the examination.

In the case of a student in Arts who has been permitted to combine attendances in two Colleges, the annual certificates will be accepted as satisfying the Regulations provided the student has kept either

(*a*) three quarters of the possible attendances in each College before and after his transfer respectively,

or

(*b*) three quarters of the combined total of possible attendances in the two Colleges taken together.

Conditions of grant of annual certificate

8. In colleges affiliated in Arts, Teaching and Law the grant of the annual certificate shall be in respect of three terms ordinarily consecutive comprising one year; but it shall be competent for the authorities of an affiliated college to grant such certificate in respect of three terms which are not consecutive, provided that the student has during those terms completed the necessary courses of study for the year.

9. The grant of the annual certificate shall be subject, in addition, to the following conditions:—

(1) In colleges affiliated in Arts, Teaching and Law the certificate shall not be granted unless a student has kept three-fourths of the attendances prescribed by the college in the course of instruction followed by him during the year, and in institutions approved by the Syndicate under the regulations for Oriental Titles and Certificates of Proficiency in Oriental Learning unless he has kept three-fourths of the attendances prescribed by the institution in the particular course of study for which the certificate is issued.

(2) In colleges of Science the certificate shall not be granted unless a student has kept three-fourths of the attendances prescribed by the college in the course of instruction followed by him during the year, in colleges in Medicine unless he has attended four-fifths of the lectures in each course and in colleges of Engineering unless he has kept three-fourths of the attendances prescribed by the college.

(3) The certificate shall not be granted unless the student has completed the course of instruction to the satisfaction of the authorities of his college and his progress and conduct have been satisfactory.

Students for want of Progress Certificate to undergo additional instruction.

10. In the Intermediate or the Pass B.A. Degree Course a student who has failed to earn the progress certificate at the end of the first year's course shall be required to rejoin the first year class for another full year.

A student who has not been selected for the March-April University Examination but who at the close of the academic year is certified by the Principal to have made such satisfactory progress that he may be admitted to examination, may appear for a subsequent examination without further attendance at a college, provided that he has earned the necessary attendance certificate.

A student who has failed to earn the progress certificate for the second academic year must attend college to receive such additional instruction as the Principal may, in his discretion, prescribe so as to enable him to earn the required progress certificate.

The Regulations governing attendance and progress and combination of attendance shall apply *mutatis mutandis* to students in the Faculty of Law.

Forms of Certificates

11. The certificates shall be drawn up in the following forms:—(*Vide* Appendix XX).

CHAPTER XXXVII (Regulations).

Matriculation Examination.

Regulation Conditions of admission

1. No candidate shall be admitted to the Matriculation Examination unless he shall have completed the age of fifteen years on or before the first day of the examination: provided that the Syndicate may exempt from the operation of this Regulation any candidate who will have completed the age of 14 years on or before the first day of the examination, who is specially recommended for such exemption by the Headmaster of the school of which he is a pupil and who produces a certificate of physical fitness from a registered Medical Practitioner. Applications for such exemption must be forwarded so as to reach the Registrar before the 1st of December preceding the examination.

2. Unless specially exempted by the Syndicate no candidate who is not a pupil of a recognised high school shall be permitted to appear for the examination.

Regulation Recognition of Schools

3. Schools falling under any of the following classes shall be recognized by the University:—

(*a*) Schools recognized by the Director of Public Instruction of Madras as teaching up to the Matriculation standard.

(*b*) Schools in Ceylon certified by the Director of Public Instruction, Ceylon, to be organized and conducted so as to ensure efficient training up to the standard of the Matriculation Examination.

(*c*) Schools in Native States of Southern India certified by the Darbars of the States in which they are situated to be organized and conducted so as to ensure efficient training up to the standard of the Matriculation Examination.

(*d*) Schools in Pondicherry certified by the Director of Public Instruction, French India, to be organized and conducted so as to ensure efficient training up to the standard of the Matriculation Examination.

Ordinance.

4. The Syndicate shall have the power to exempt from the production of the prescribed annual Certificate of attendance for the Matriculation Examination (*a*) Candidates who hold completed School-leaving Certificates issued under the authority of the Government of Madras or such other authority as may have been accepted by the Syndicate, provided that their appearance for the Secondary School-leaving Certificate Examination was at least three years prior to the date of their proposed appearance at the Matriculation Examination, (*b*) candidates who, during the previous three years, have been educated privately or in schools outside the territorial limits of the Madras University, as defined in the Indian Universities Act, 1904, provided that in each case they produce satisfactory evidence that they are of good character and that they have received suitable instruction. Applications for exemption under this Ordinance must be forwarded so as to reach the Registrar before the 1st October preceding the Examination.

Regulation

Courses of Study and Subjects for Examinations

5. The examination shall comprise five divisions; (i) English Language; (ii) Second Language; (iii) Mathematics; (iv) Elementary Science; (v) History and Geography.

i. English Language

i. *English Language.*

Text-books shall be prescribed, of which a detailed knowledge may be required.

There shall be two papers set upon the English language: one paper of two-and-a-half hours' duration, which shall be mainly upon the prescribed texts and shall be designed to test the candidate's proficiency in composition and his knowledge of grammar and idiom; and one paper of two-and-a-half hours' duration, which shall consist of (*a*) composition and paraphrase not based on the texts, and (*b*) the conversion, expansion, and condensation of sentences. Some of the exercises in the second paper shall be based on the texts. Paraphrase shall be treated as a test of the candidate's power to understand and give the general meaning of passages of prose or poetry.

ii. *Second Language.*

ii. Second Language

One of the following languages at the option of the candidate:—

(*a*) Classical	Sanskrit. Greek. Latin.	Arabic. Persian. Hebrew.
(*b*) Foreign	...French.	German.
(*c*) Indian Vernaculars ...	Urdu. Kanarese. Tamil. Telugu. Malayalam.	Marathi. Oriya. Burmese. Sinhalese. Hindi.

In each classical or foreign language there shall be one paper of three hours' duration divided into two parts, of which the first shall contain passages for translation from the text-books and questions on grammar and idiom, and the second shall contain unseen passages for translation from the selected language into English and from English into the selected language. To the second part of the paper not less than half the total number of marks shall be assigned.

In each of the Indian vernacular languages there shall be one paper of three hours' duration divided into two parts, of which the first shall contain questions on the text-books and on grammar and idiom, and the second part shall consist of original composition. The texts prescribed shall be mainly in modern prose. To the second part of the paper not less than half the total number of marks shall be assigned.

iii. *Mathematics.*

iii. Mathematics

There shall be two papers set in Mathematics, one in Arithmetic and Algebra of three hours' duration, and the other in Geometry of two-and-a-half hours' duration.

(*a*) *Arithmetic.*—The principles and processes of Arithmetic applied to whole numbers and vulgar and decimal fractions. The metric system. Approximations to a specified degree. Contracted methods of multiplication and division of decimals. Practice, ratio and proportion. Square and Cubic measure. Direct applications of the term *per cent;* including interest, present-worth and discount, stocks and shares, profit and loss, exchange, Square root.

(*b*) *Algebra.*—Symbolical expression of general results in Arithmetic. Algebraical laws and principles and their applications. Factorization of simple functions. Equations, conditional and identical. Equations of the first degree in one, two and three variables and the principles involved in their solution. Solution of problems by means of such equations. Equations of the second degree in one variable and the principles involved in their solution. Theory of positive integral indices. Square root. Graphs of simple algebraic functions.

(*c*) *Geometry — Experimental.*—Construction of lines, angles, circles, perpendiculars, parallels, tangents, chords, triangles and regular polygons from given data. Division of lines in given ratios. Bisection of angles. Graphical extraction of Arithmetical square roots.

Theoretical.—Angles at a point. Parallel straight lines. Triangles and rectilinear figures. Areas. Simple loci. Elementary propositions on circles. Proofs of the constructions in *Experimental Geometry*. Easy deductions.

A detailed syllabus in Geometry will be prescribed from time to time.

iv. *Elementary Science.*

iv. Elementary Science

There shall be one paper of three hours' duration in Elementary Science comprising Elementary Physics and Elementary Chemistry as defined in a syllabus.

v. *History and Geography.*

v. History and Geography

There shall be two papers set in History and Geography, each of two hours' duration.

1. History—

(1) Outlines of the History of Great Britain and Ireland—a period or periods, as defined in a syllabus, to be prescribed each year.

(2) Outlines of the History of India—a period or periods, as defined in a syllabus, to be prescribed each year.

2. Geography—

(1) Geography of India, Great Britain and Ireland, as defined in a syllabus.

(2) Geography of Europe, Asia, Africa, America, and Australia, as defined in a syllabus.

Regulation
Marks qualifying for a pass

6. A candidate shall be declared to have passed the examination if he obtains not less than forty per cent. of the marks in the English language and not less than thirty-five per cent. of the marks in each of the remaining divisions, provided that a candidate who fails to obtain the required minimum in one subject only but who passes in English and gains fifty per cent. of the total number of marks shall be declared to have passed.

Regulation.
Classification of successful candidates

All other candidates shall be deemed to have failed in the examination. Successful candidates who obtain not less than sixty per cent. of the aggregate marks shall be placed in the first class. Successful candidates who obtain less than sixty per cent. and not less than fifty per cent. of the aggregate shall be placed in the second class. All other candidates who pass shall be placed in the third class.

CHAPTER XXXVIII (Regulations).

Intermediate Examination in Arts and Science

Courses of Study

1. Matriculates prior to proceeding to the Intermediate Examination shall be required to undergo a course of study in a constituent or an affiliated college for a period extending over two years, each of which shall consist of three terms. The Intermediate course shall consist of three parts.

Part I.—English.

English

For this course books in English Prose and Poetry shall be prescribed.

In prescribing these books, two objects shall be kept in view—

(a) the improvement of the students' knowledge of the English Language and of its Literature; (b) the development of their ability to extend the range of their knowledge by training them to read with ease and discrimination.

The course of study shall consist of—

(1) The detailed study of certain set books.

(2) The perusal, as distinct from a detailed study, of other set books.

Certain of the set books which are to be studied in detail may be retained from year to year. The books which are not to be studied in detail shall be prescribed every year. The books prescribed in any year shall not for (a) detailed study be more than one play of Shakespeare, about 600 lines of additional verse, and two prose books and for (b) perusal be more than three books. The books prescribed shall be of the same average length and difficulty from year to year.

(3) Such instruction and exercises in rhetoric and composition as may be expected to develop the students'

powers of understanding English and writing it clearly, concisely, and correctly. This instruction should include the following topics:—

The paragraph as the unit of prose composition. The sentence as a constituent portion of the paragraph. The period and the loose sentence. Unity, balance and emphasis in relation to paragraph and sentence. Logical sequence of sentences and paragraphs and explicit references to preceding paragraphs, as securing coherence in any essay.

Second Language

2. Part II. A second language. The course will comprise text-books, grammar, translation, and in the case of vernaculars original composition, (the scope being indicated for the present by an allotment of four hours of instruction a week).

The main object of the study of the Indian vernacular languages is to train the student to use the language as a vehicle of current thought.

One of the following languages at the option of the candidate:—

(*a*) Classical	Sanskrit	Arabic
	Greek	Persian
	Latin	Hebrew
(*b*) Modern European	French	German
(*c*) Indian	Tamil	Marathi
	Telugu	Oriya
	Kanarese	Burmese
	Malayalam	Sinhalese
	Urdu	Hindi

Optional Subjects

3. Part III. Three subjects to be selected out of the following Groups A, B and C at the option of the candidate.

Group A	Group B	Group C
Mathematics	Logic	Economic History of England and Economic Geography.
Physics	Indian History	Elements of Commerce and Accountancy
Chemistry	Ancient History	Agriculture
Natural Science	Modern History	Electrical Engineering
Geography	A third Language	Mechanical Engineering
		Surveying
		Drawing
		Indian Music
		Western Music
		Architecture.

Subjects for Examination

4. A candidate shall be examined in—

Part I. English.

There shall be three papers on English Language and Literature. The first paper of three hours' duration shall be on the books of Poetry set for detailed study. The second paper of two and a half hours' duration shall be on the books of Prose set for detailed study. The third paper of three hours' duration shall be on composition and shall contain exercises designed to test the candidate's power to apply the principles studied in the course; in particular it shall contain (*a*) exercises in epitomizing and paraphrasing passages of prose and poetry which shall not be taken from any of the books prescribed for detailed study or for perusal and (*b*) subjects for two short essays drawn from the subject-matter of the set books—not more than three—prescribed for perusal as distinct from detailed study and from topics of general interest. The papers in the examination shall be so set that candidates shall be able to get full marks in the examination without answering questions on matters relating to purely literary criticism or scholarship.

Note.—*The number of questions set should not exceed five in the Poetry paper and four in the Prose paper.*

Part II. A second language. Any one of the classical, modern European or Indian languages mentioned in Regulation 2 of this chapter according to a prescribed syllabus.

In each of the languages mentioned above, there shall be two papers—one of three hours' duration and the other of two hours' duration.

The three hours' paper in the case of Sanskrit, Arabic, Persian and Hebrew, and the two hours' paper in the case of all other languages, shall contain questions on text-books prescribed for detailed study, grammar, and idiom.

The other paper shall contain (1) in the case of all the languages mentioned under regulation 2 (*a*) and (*b*) *supra*, questions on translation from the selected language into English, and *vice versa*, and (2) in the case of the Indian Languages mentioned under Regulation 2 (*c*) *supra* questions on the books prescribed for non-detailed study, original composition, and translation from English into the selected Indian language.

Part III. Three subjects to be selected out of the three Groups A, B and C mentioned in Regulation 3 of this chapter at the option of the candidate subject to the proviso contained in Regulation 5 hereunder. Two papers shall be set for each subject of two hours' duration, except in the case of Languages in which there shall be two papers one of two hours and the other of three hours' duration, as detailed under Part II. The text-books for each subject under this Group shall be prescribed from time to time on the recommendation of the Boards of Studies concerned. (For text-books—*vide* APPENDIX II).

Examination

5. A candidate who has passed Parts I and II and in three of the subjects in Part III, as prescribed, shall be declared to have passed the Intermediate Examination.

A candidate who wishes to proceed to a degree in Arts or Science shall be required to choose *two at least* of his optional subjects from either Group A or Group B.

This will not debar students who have taken the two Commercial subjects under C from proceeding to Group IV-B—(V-B under the old Regulations) of the B.A. course.

A candidate who wishes to proceed to the Degree in Commerce shall be required to choose at least one of the Commercial subjects under Part III Group (c) as one of his optional subjects.

Marks qualifying for a pass

6. A candidate shall be declared to have passed the examination if he obtains not less than (1) 35 per cent. of the marks in English under Part I, (2) 35 per cent of the marks in the second language under Part II, and (3) 35 per cent. in each of the three subjects selected under Part III.

All other candidates shall be declared to have failed in the examination.

Classification of successful candidates

7. Candidates who pass in all the Parts at the same examination, and who obtain not less than 50 per cent. of the total number of marks shall be placed in the first class. All other successful candidates shall be placed in the second class.

Candidates who pass in all the Parts at the same examination, and obtain not less than 60 per cent. of the marks in any subject shall be declared to have gained distinction in that subject.

Candidates who obtain the prescribed minimum number of marks in each part in separate examinations and are declared to have passed the examination under Regulation 9 of this Chapter shall be placed in a separate list in the second class.

Candidates applying for first time

8. A candidate applying for the examination on the first occasion shall appear for all the three Parts of the examination and thereafter may appear for any Part or Parts of the examination.

9. A candidate shall be declared to have passed the examination on his obtaining in each Part of the examination not less than the minimum number of marks prescribed for that part as laid down in Regulation 6 of this chapter, provided that he obtained such marks on the last occasion on which he presented himself for examination in such Part or Parts.

10. A candidate who has passed the Intermediate Examination in Arts and Science shall be permitted to take the examination in a new subject or subjects under Part III of the Intermediate course, provided he has attended a College for a further period of not less than one academic year and undergone the prescribed course in the new subject or subjects. He shall be declared to have passed the examination if he obtains not less than 35 per cent. of the marks in each new subject.

In the case of a successful candidate an additional entry shall be made in his Intermediate Certificate to the effect that he has passed the Intermediate Examination in Arts and Science with the specified additional subject or subjects also.

CHAPTER XXXIX.

* Degree of Bachelor of Arts.

(NEW REGULATIONS.)

Under-graduates proceeding to B.A.

1. Subject to the Laws of the University regarding recognition of the Examinations of other Universities as equivalent to the Intermediate Examination of this University, under-graduates who have been declared to have passed the Intermediate Examination in Arts and Science of this University, and have satisfied the requirements of para 2 of Regulation 5 of Chapter XXXVIII shall undergo

* For Regulations in force prior to 1929 relating to B.A. Degree Examination *Vide* Appendix XVI.

a further course of study in a constituent or an affiliated College, if they desire to proceed to the Bachelor of Arts Degree Examination.

Course of Study.

Course of study for B.A.

2. The course for the B.A. Degree shall extend over a period of two years, each consisting of three terms ordinarily consecutive, and shall comprise instruction in the following subjects, according to a syllabus to be prescribed from time to time.

Part I—English Language and Literature.

Part II.—A Second Language.

Part III.—One of the following Groups:—

(i-A) Mathematics. [*comprising Algebra and Trigonometry, Calculus, Geometry, (Pure and Analytical), Dynamics, Astronomy, Hydrostatics, Properties of matter and Heat.*]

(i-B) Mathematics. [*comprising Algebra and Trigonometry, Calculus, Analytical Geometry, Dynamics, and any two of the following:—*

Astronomy, Elements of Statistics, Economics, Pure Geometry, Analysis.]

(ii-A) Any two of the following subjects, one of which shall be on the main standard, and the other on the subsidiary standard.

(a) Mathematics.
(b) Physics.
(c) Chemistry.
(d) Botany.
(e) Zoology.
(f) Geology.
(g) Physiology.

(ii-B) Physics on the main standard with *either* (i) Mechanical Engineering *or* (ii) Electrical Engineering on the Subsidiary standard, provided that the selected subject has already been taken up by the candidate for his Intermediate Course.

(iii) Philosophy.

(iv-A) History and Economics.

(iv-B) Economics and History.

(v) Languages other than English.

(vi) Indian Music.

(vii) Geography.

Eligibility for the Degree. 3. No candidate shall be eligible for the Degree of Bachelor of Arts until he has completed the course of study prescribed and passed an Examination in the subjects contained in the course of study as detailed in Regulation 2 *supra*.

Subjects for Examination. 4. Candidates shall be examined in the following subjects:—

Part I—English *Part I—English Language and Literature.*

The course shall comprise:—

(a) The study in detail of certain prescribed books; and

(b) Composition on matter supplied by books prescribed for perusal.

(a) The works prescribed for detailed study shall consist of the following:—

(1) Shakespeare; (two plays)

(2) Modern Poetry; from Milton to the present day, about 2,000 lines.

(3) Modern Prose; from Addison to the present day, not more than three books.

*(b) The works prescribed for perusal as a basis for Composition shall consist of not more than three books which may be novels, essays or works of general cultural value.

Each of the four papers, Shakespeare, Modern Poetry, Modern Prose, and Composition shall be of three hours' duration.

Note.—The Composition paper shall be regarded as a test both of a candidate's command of correct and idiomatic English and of his knowledge of the substance of the texts.

Part II—A Second Language.

Part II—Second Language

Any one of the following Classical, Modern European, or Indian Languages, at the option of the candidate, according to a syllabus to be prescribed from time to time.

Classical	Sanskrit	Arabic
	Greek	Persian
	Latin	Hebrew
Modern European	French	
	German	
Indian Languages	Tamil	Marathi
	Telugu	Oriya
	Kanarese	Burmese
	Malayalam	Sinhalese
	Urdu	Hindi

In the selected language, there shall be two papers, each of three hours' duration. Each paper shall comprise questions as detailed below:—

Classical Languages.

Sanskrit.—The first paper shall relate to the prescribed text-books and grammar taught with reference to

*One of the works prescribed for perusal for B.A. Part I, B.A. (Honours), Preliminary, B.Sc., Part I and B.Sc., (Honours) Part I should have a bearing on Indian Life and Culture. (Academic Council, January 1933).

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them. The second paper shall consist of three parts, the first part consisting of Sanskrit passages partly from the text-books and partly from passages not contained in the text-books, for translation into English or vernacular, the second part consisting of a passage or passages in English for translation into Sanskrit, and the third part relating to the History of Sanskrit Literature, the History of the Vedic period and of technical literature (such as Medicine, Astronomy, Astrology, Mathematics and Systems of Philosophy) being omitted.

Greek and Latin.—The first paper shall consist of passages for translation from the text-books, questions on Idiom and Grammar, and questions on the subject matter of the text-books. The second paper shall consist of a piece of English Prose for translation into Greek or Latin and passages not contained in the text-books for translation into English.

Hebrew, Arabic and Persian:—

The first paper shall consist of questions on (1) Text-Books (2) Grammar and (3) Rhetoric and Prosody of an elementary nature, and the second paper shall consist of questions on Translation from the selected language into English and *vice versa* and on the History of Literature.

Modern European Languages.

French and German.—The first paper shall consist of passages for translation from the text-books, question on idiom and grammar, and questions on the subject matter of the text-books The second paper shall consist of a subject for composition chosen from the prescribed books, and unseen passages shall be set for translation from French or German into English and *vice versa.*

Indian Languages.

Urdu:—

The first paper shall comprise questions on (1) prescribed Text-books (2) Grammar (3) Rhetoric and Prosody of an elementary nature and (4) on the History of Literature.

All other Languages:—

The first paper shall consist of questions on prescribed Text-books in Poetry and Prose, Grammar and History of Language and Literature.

The second paper shall comprise.

(1) a passage or passages in English for translation into the selected language;

(2) a subject for essay having reference to modern thought;

(3) a subject for essay based on books prescribed for non-detailed study.

Note:—One hour shall ordinarily be assigned for translation question and one hour for each part of composition.

Part III.

Part III—Optional Groups.

One of the groups mentioned in Regulation 2 of this Chapter, at the option of the candidate, the scope and duration of each being in accordance with a prescribed syllabus.

The course of study and the scheme of examination in the several groups shall be as hereunder:—

(For Syllabuses—*Vide* Appendix III.)

Group (i-a) Mathematics.

Divisions of the examination

The course shall comprise the study of (1) Algebra and Trigonometry (2) Calculus (3) Geometry (Pure and Analytical) (4) Dynamics (5) Astronomy (6) Hydrostatics, Properties of Matter and Heat. The examination shall consist of six papers, of which three [1. Algebra and Trigonometry, 2. Geometry, (Pure and Analytical) and 3. Hydrostatics, Properties of Matter and Heat] shall be of three hours' duration and three of two hours' duration each.

Group (i-b) Mathematics.

The course shall comprise the study of Algebra and Trigonometry, Calculus, Geometry, Dynamics [4 papers of 10 hours' duration as under Group (*i-a*) above] and any two of the following subjects with two papers of 3 hours' duration each—

1. Astronomy
2. Elements of Statistics
3. Economics
4. Pure Geometry
5. Analysis

The examination shall consist of four papers in the compulsory subjects [Algebra and Trigonometry (3 hours), Geometry (3 hours), Calculus (2 hours), Dynamics (2 hours)] and one paper of three hours' duration in each of the two optional subjects selected.

Group (ii).

A—(*a*) *Mathematics—Main.*

The course shall comprise the study of (1) Algebra and Trigonometry (2) Calculus (3) Geometry and (4) Dynamics.

The Examination shall consist of 4 papers of 10 hours' duration as under Group (i-b) above.

Mathematics—Subsidiary

The course shall comprise the study of the following subjects:—

Algebra and Trigonometry, Analytical Geometry and Calculus.

The examination shall consist of two papers of three hours' duration each.

The problems set for the subsidiary papers will in general be of a lower standard than for the main papers in the same subjects and will as far as possible relate to scientific topics.

Algebra and Trigonometry. Simple practical applications of the binomial, exponential, and logarithmic series; compound interest law.

Complex numbers, their geometrical representation; de Moivre's theorem and its immediate applications. Use of the expansion of the sine and cosine in power series.

Analytical Geometry as for Main excluding the general equation of the second degree and polar equations.

Calculus—Same as for Main.

(*b*) *Physics—Main.*

The course shall comprise the study of the following subjects:—

Dynamics, Properties of Matter and Hydrostatics, Heat and Light, Electricity, Magnetism and Sound.

There shall be a practical Examination in which two exercises shall be set. Marks will be allotted to Laboratory note books which should be produced by candidates as a *bona fide* record of practical work done by the candidates duly certified by professors.

The examination in theory shall consist of four papers of two and a half hours' duration each.

Physics—Subsidiary.

The course shall comprise the study of the following subjects:—

Properties of Matter, Hydrostatics, Heat, Light and Electricity.

The examination shall consist of two papers of two hours' duration each and a practical examination of three hours' duration.

(*c*) *Chemistry—Main.*

The course shall comprise the study of the following subjects:—

General Theoretical and Physical Chemistry, Inorganic Chemistry and Organic Chemistry.

There shall be a Written Examination of three papers of three hours' duration each and a Practical Examination of two papers of six hours' and three hours' duration respectively.

At the Practical Examination candidates must submit to the Examiner or Examiners their laboratory note-books (duly certified by their Professors or lecturers) as a *bona-fide* record of work done by the candidates.

Candidates who fail to submit properly certified note-books of their practical work, will be debarred from the practical examinations.

Chemistry—Subsidiary.

The course and the examination will be of a less advanced character than those for candidates taking Chemistry of the main standard.

There shall be a written examination of two papers as follows:—

General and Inorganic Chemistry ..	3 hours.
Organic Chemistry ..	2 hours.

and a practical examination in Inorganic Chemistry of three hours' duration.

The practical examination shall be held to test the candidate's ability to make experiments illustrating the subjects included in the course, identifying the more common metals and their compounds (containing not more than one acid and one base) and making simple volumetric analyses with standard solutions of acids, alkalis, potassium permanganate, and of iodine and sodium thiosulphate.

(*d*) *to* (*g*) ***Botany, Zoology, Geology and Physiology—as a Main and a Subsidiary subject.***

The course shall cover the study of the subjects detailed in the syllabuses and the knowledge required of the candidates for the examination in the subsidiary subject shall be less detailed than that required for a pass in the main subject.

The Examination shall consist of—

1. In the Main subject—

    Two papers of three hours each.

    Two practical examinations of three hours each.

2. In the Subsidiary subject—

    Two papers of two hours each.

    One practical examination of three hours.

(B) (i) & (ii) Mechanical Engineering or Electrical Engineering, (to be taken as a Subsidiary subject to Physics).

Mechanical Engineering.

Subsidiary:—

The examination shall be both written and practical and the scheme of examinations shall be as follows:—

Written

1. Machine Design	..	2 hours.
2. Heat Engines, Steam Engines, Fuels and Boilers, and Internal combustion Engines	..	2 hours.

Practical

3. Practical Examination	..	3 hours

Electrical Engineering.

Subsidiary:—

The examination shall be both written and practical and the scheme of examinations shall be as follows:—

Written

1. Direct current excluding Storage Batteries and Illumination	..	2 hours.
2. Alternating current and Storage Batteries and Illumination	..	2 hours.

Practical

3. Practical Examination	..	3 hours.

Group (iii)—Philosophy.

The course shall comprise the study of (1) Psychology (2) Ethics, (3) Logic and Theory of Knowledge, (4) One of not more than three Philosophical works (of which at least one shall be the study in whole or in part of an Indian work) prescribed from time to time.

Under Logic and Theory of Knowledge, the first paper shall deal with Indian Logic and Theory of Knowledge and the second with European Logic and Theory of Knowledge.

The Examination shall consist of six papers, of which two shall be of three hours' duration (Prescribed Philosophical work and Ethics) and four of two hours' duration divided as follows :—

Two papers in Logic and Theory of Knowledge.

Two papers in Psychology.

Group (iv-a)—History and Economics.

The course shall comprise the study of and examination in the following subjects :—

(1) General Indian History.

(2) Constitutional History of Great Britain and Ireland.

(3) Outlines of European History—A. D. 476 to A. D. 1878.

(4) Elements of Economics, and

(5) Political Science.

There shall be five papers of three hours' duration each.

Group (iv-b)—Economics and History.

The course shall comprise the study of the following subjects :—

There shall be five papers of three hours' duration each, divided as follows :—

1. Economics—General (in common with Group (iv-a)

2. Economics—Special

3. Modern Economic History of England and India (from 1600 A. D.)

4 & 5 Any two of the following three subjects—

Political Science
European History } (in common with Group (iv-a)
Indian History

The second paper, "Economics—Special" shall consist of two parts (a) Public Finance and (b) Rural Economics, both with special reference to India. Public Finance will include the economic functions of the State, the raising and spending of taxes and public loans and the regulation of tariffs. Rural Economics will include the organization and financing of Agriculture, the Co-operative Movement and other allied problems.

Group (v)—Languages other than English.

Candidate may select any one of the following languages, which shall be taken in conjunction with the cognate subject or related language specified for each language in the following list :—

Selected Language	*Cognate subject or language*
Sanskrit	Early Indian History
Persian or Arabic	Early Muslim History
Urdu	Indian History-Muslim Period
Tamil, Telugu, Malayalam or Kanarese	Early South Indian History
Oriya	Early History of Orissa
Greek or Latin	A Special Period of Greek or Roman History respectively
Marathi	History of the Marathas
German or French	A Special Period of Modern European History
Hebrew	History of the Jews
	Related Language
Dravidian Languages, Marathi, or Oriya	Sanskrit
Urdu	Arabic or Persian

The course of study in the several languages shall be in accordance with a syllabus to be prescribed from time to time.

The examination shall consist of six papers of three hours' duration each.

Group (vi) Indian Music.

The course of study and examination shall be in accordance with the syllabus as given in Appendix III.

Group (vii)—Geography.

The course shall comprise the study of (i) Regional Geography, (ii) Economic Geography, (iii) Physical Basis of Geography and (iv) Cartography.

The syllabuses for the above subjects will be prescribed from time to time.

The Examination shall be a written one and the scheme of examination shall be as follows:—

1. Regional Geography— I Paper.		3 hours.
2. Regional Geography—II Paper.		3 hours.
3. Economic Geography	..	3 hours.
4. Physical Basis of Geography	..	3 hours.
5. Cartography	..	3 hours.

Marks qualifying for a pass

5. A candidate shall not be eligible for the degree of the Bachelor of Arts unless he has passed the examination in English Language and Literature under Part I, the examination in the selected second language under Part II, and the examination in the selected optional group under Part III. A candidate who obtains not less than 35 per cent of the marks in Part I shall be declared to have passed the examination in Part I, a candidate who obtains not less than 35 per cent of the marks in the selected language in Part II shall be declared to have passed the examination in Part II; and a candidate who obtains not less than 35 per cent of the total marks in the selected optional group in Part III and not less than 30 per cent of the marks in each division of the examination in this Part except in the case of Group (vi) Indian Music shall be declared to have passed the examination in Part III.

In the case of Group (vi) Indian Music, a candidate who obtains not less than 35 per cent. of the total marks and not less than 35 per cent. in Practical examination and not less than 30 per cent. in Theory examination, shall be declared to have passed the examination in Part III.

The divisions shall be as follows:—

Group (i-a). (1) Pure Mathematics (2) Applied Mathematics.

Group (i-b). (1) Compulsory subjects (2) Optional Subjects.

Group (*ii*) (*A*)—(*a*) (1) Main Subject, (2) Subsidiary Subject,
and
Group (*ii*). (*A*)—(*b*) to (*g*), *and* (*B*) (*i*) *and* (*ii*)-(1). The written examination in the main subject, (2) the practical examination in the Main subject, (3) the Subsidiary subject.

Group (*iii*) (1) Psychology and Ethics, (2) Special Subject and Logic.

Group (*iv-a*) (1) Indian, European and Constitutional Histories, (2) Economics and Political Science.

Group (*iv-b*) (1) Economics, (2) History.

Group (*v*) (1) Selected Language, (2) Related Subject or Language.

Group (*vi*) (*a*) Theory.
(*b*) Practical Examination.

Group (*vii*). (1) Regional Geography and Economic Geography, (2) Physical Basis of Geography & Cartography.

Classification of successful candidates.

6. Successful candidates who obtain not less than 60 per cent of the marks in any Part mentioned in Regulation 2 shall be placed in the first class in that part. Successful candidates who obtain less than 60 per cent. and not less than 50 per cent of the marks in any Part mentioned in Regulation 2 shall be placed in the second class in that Part. All other successful candidates obtaining less than 50 per cent and not less than 35 per cent of the marks in any Part mentioned in Regulation 2 shall be placed in the third class in that Part.

Candidates may appear for whole Examination or for Parts.

7. A Candidate for the B.A. Degree Examination may, at his option present himself for the whole or for any Part or Parts of the examination at any one time.

8. A person who has qualified for the B. A. Degree of this University shall be permitted to reappear for the B.A. Degree Examination presenting an additional language, or a second language under Part II, provided that the Syndicate is satisfied that he has undergone the course of study prescribed in the language selected by attending a college for a period of not less than one year. He shall be exempted from re-examination in the remaining Parts, *viz.*, in English and in the Optional Subjects.

B.A's. to qualify in additional Language in Part II.

A candidate coming under the provisions of this Regulation shall be declared to have passed the examination if he obtains not less than 35 per cent. of the marks.

9. A person who has qualified for the B. A. Degree of this University shall be permitted to re-appear for the B.A. Degree Examination offering a different optional group under Part III of the B. A. Degree Course, provided that the Syndicate is satisfied that he has undergone the course of study (both theoretical and practical) prescribed for the selected new Group of optional subject by attending a college for a period of not less than one year. He shall be exempted from re-examination in the remaining Parts, *viz.*, English and in the Second Language.

B. A's. may qualify in additional optional group.

In the case of Science subjects, the main subject offered for the subsequent examination shall be one different from the main subject in which he previously qualified for the Degree. He shall be exempted from examination in the subsidiary subject, provided it was his main or subsidiary subject on the previous occasion when he qualified for the Degree.

A candidate coming under the provisions of this Regulation shall be declared to have passed the examination if he obtains not less than 35 per cent. of the marks in the aggregate, and not less than 30 per cent. in each division of the Optional Group in Part III.

Mark's qualifying for a pass.

The divisions for the different groups shall be the same as those prescribed in Regulation 5 *supra*, except in the case of the group for Science subjects where the candidate is exempted from the examination in the subsidiary subject. Where he is exempted from examination in the subsidiary subject, his aggregate marks shall comprise the marks in the main subject only.

10. Successful candidates under the above Regulations shall be placed in a separate list. They shall not be eligible for prizes or medals awarded by the University.

Classification of successful candidate.

Such candidates shall not be admitted at a Convocation a second time, but a special Post Graduate Certificate setting forth the further subjects of the Examination passed by them and the dates of such examination shall be given to them.

Award of Post Graduate certificates.

CHAPTER XL.

DEGREE OF BACHELOR OF ARTS (HONOURS).

*(Revised.)

Conditions for admission.

1. Candidates for the Examination of Bachelor of Arts (Honours) shall be required ;

Either

A.

(1) to have passed the Intermediate Examination in Arts and Science of this University and to have satisfied the requirements of para. 2 of Regulation 5 of Chapter XXXVIII, or an examination of some other University accepted by the Syndicate as equivalent thereto ;

and (2) to have undergone subsequently a further course of study in a constituent or an affiliated college for a period of not less than three years ;

or

B.

(1) to have qualified for the Degree of Bachelor of Arts (B.A.) in this University or to have passed a Degree Examination of some other University accepted by the Syndicate as equivalent thereto ;

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* *Note.*—These Regulations shall take effect from the academic year (1931-32) and the first final examination shall be held in March-April 1934.

and (2) to have undergone subsequently a further course of study in a constituent or an affiliated college for a period of not less than two years.

Examination.

2. No candidate shall be eligible for the B. A. (Honours) Degree until he has passed the Final Examination in one of the branches of knowledge contained in the courses of study.

Courses of study.

3. For the B.A. (Honours) Degree Examination, the courses shall comprise instruction in—

I. English during the first year—for the Preliminary Examination.

II. One of the following branches of knowledge during the three years:—

i. Mathematics.
ii. Philosophy.
iii. History, Economics and Politics.
iv. Economics and Politics or History.
v. Two Languages other than English.
vi. English Language and Literature.
vii. Sanskrit Language and Literature.
viii. Arabic Language and Literature.
ix. A Dravidian Language or Urdu and its Literature. (Tamil, Telugu, Malayalam, Kanarese or Urdu).

4. There shall be Preliminary Examination and a Final Examination in Honours.

Preliminary Examination.

5. The Preliminary Examination shall be held for candidates taking the three years in Honours, as prescribed in Regulation 1-A.

Admission to Preliminary Examination.

6. No candidate shall be admitted to the Preliminary Examination unless he has satisfied the condition prescribed in Regulation 1-A (1) and has undergone the prescribed course.

Admission to Final Examination.

7. No candidate, other than a candidate exempted under the provisions of Regulation 8 shall be admitted to the Final Examination in Honours unless he has passed the Preliminary Examination.

Exemption from Preliminary Examination.

8. A candidate for the B.A. (Honours) Degree who has passed the B.A. (Pass) Degree Examination of this University or who has passed a degree examination of some other University recognized as equivalent thereto, shall be exempted from passing the Preliminary Examination.

B Sc.'s in Mathematics may appear for B. A. (Hons.)

9. Candidates who have qualified for the Degree of Bachelor of Science with Mathematics as main subject shall be permitted to appear for the B.A. (Honours) Degree Examination in Branch I—Mathematics after a two years' course in a Constituent or Affiliated college. They shall be exempted from examination in Part I—English.

Permitted to appear only once.

10. No candidate shall be permitted to undergo the Final Examination in Honours more than once. A candidate for the Final Examination shall be permitted to withdraw from the examination, provided he has not sat for the last paper in the examination and provided he has given notice of withdrawal to the Registrar within three clear days from the date of the last paper which he answered. He shall be permitted to appear again for the Final Examination in the following year without producing any additional certificate of attendance.

Note.—In branches in which there are main and subsidiary subjects, the expression 'Final examination' will mean the examination in the main subject only, and will include both the written and practical examinations.

Time limit for appearance at Final Examination.

11. A candidate for the B.A. (Honours) Degree shall be required to appear for the Final Examination in Honours—

(1) not later than the end of the fourth year after passing the Intermediate Examination; or not later than the month of March following the end

of the fourth year in the case of candidates declared to have passed the examination in September

or

(2) in the case of Bachelor of Arts or Science proceeding to the Honours Examination, not later than three years after commencing the Honours course in a college.

PRELIMINARY EXAMINATION.

12. The course for the Preliminary Examination shall comprise—

Courses of study for Preliminary Examination.

(a) in the case of candidates other than those who have selected Branch vi—English Language and Literature:—

(1) the study in detail of certain prescribed books (Nineteenth Century Prose); and

(2) the study of certain books set for perusal;

(b) in the case of candidates who select Branch vi—English Language and Literature—

(1) the study of the History of England treated in relation to the History of English Language and Literature

and

(2) the study of certain books set for perusal [as for in (a) above.]

The books prescribed under (2) above may include works of fiction, Literary Criticism, Biography, History, Science or Philosophy.

13. The examination shall be in the following subjects and there shall be two written papers of three hours' duration each—

Subjects for Examination.

1. Nineteenth Century Prose,

or

English History.

2. Composition.

14. A Candidate who secures not less than 40 per cent. of the aggregate marks in the two papers shall be declared to have passed the examination.

Marks qualifying for a pass.

A candidate who secures not less than 60 per cent. of the aggregate marks shall be declared to have passed the examination with distinction.

FINAL EXAMINATION.

Subjects for Examination.

15. The courses in each Optional Branch of knowledge shall be as follows:—

(i) *Mathematics.*

(i) Mathematics.

A candidate shall be required to have a sound knowledge of—

(a) Pure Mathematics:

1. Pure Geometry including Projective Geometry.
2. Algebra and Theory of Equations.
3. Plane Trigonometry.
4. Differential and Integral Calculus including Reimann integration, Cauchy's theorem on Contour integration and Fourier's series.
5. Elementary Differential Equations.
6. Co-ordinate Geometry of two dimensions.
7. Solid Geometry—the line, plane, sphere and surfaces of the second degree.

(b) Applied Mathematics.

1. Statics excluding the theory of potentials.
2. Dynamics of a Particle.
3. Dynamics of a Rigid Body—motion in two dimensions.
4. Hydrostatics.
5. Astronomy, general and elementary spherical.

(c) Two of the following subjects, at least one of which shall be from numbers 1 to 5:—

1. Geometry
2. Algebra
3. General Theory of Functions
4. Differential Equations

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5. Special Functions
6. Dynamics
7. The Potentials
8. Elasticity
9. Hydrodynamics and Sound

A candidate shall give notice through his college, a year before the date of the examination, of the particular subjects he proposes to take.

Three papers shall be set in Pure Mathematics, three in Applied, and one in each of the optional subjects selected. Each paper shall be of three hours' duration and shall contain questions on the principles developed in the ordinary treatment of the subject as well as exercises of moderate difficulty arising therefrom.

(*ii*) *Philosophy.*

A candidate shall be examined in—

ii. Philosophy. 1. Psychology.

2. *Either* Theory of Knowledge *or* Ethics provided that a candidate selecting Theory of Knowledge must have attended, and made satisfactory progress under a course of instruction in Ethics equivalent to that required of candidates for the B.A. Degree and that a candidate selecting Ethics must have attended and made satisfactory progress under a course of instruction in European Logic and Theory of Knowledge equivalent to that required of candidates for the B.A. Degree.

(3) Outlines of Indian Philosophy.

(4) European Philosophy from Descartes to Kant.

(5) and (6) Two subjects both of which must be selected from *either* List A *or* from List B. (Candidates who select subjects from List A should take up *Theory of Knowledge* and those who select subjects from List B should select *Ethics*).

List A.	*List B.*
(*a*) Indian Logic.	(*a*) Social and Abnormal Psychology.

(*b*) *One* of the following :

i. Advaita Vedanta.

ii. Saiva Siddhanta.

iii. Dvaita.

iv. Visishtadwaita.

v. Sankhya.

vi. Buddhism.

vii. Jainism.

(*c*) Greek Philosophy.

(*d*) Scholastic Philosophy.

(*e*) Philosophy from Kant to Hegel.

(*f*) A prescribed work dealing constructively with the general problems of Philosophy.

(*b*) Child and Educational Psychology.

(*c*) Philosophy of Religion.

(*d*) Hindu Social Thought.

(*e*) A prescribed Period or School of Political Philosophy.

(*f*) Political Philosophy.

(7) Essay.

A candidate shall give notice through his College, a year before the date of the examination, of the particular subjects he proposes to take.

There shall be a written examination of seven papers and a *viva voce* test.

The *viva voce* test shall be held as soon as possible after the examiners have read the written answers of the candidates. No fixed proportion of marks shall be assigned to it; its purpose is to assist the examiners to place the candidates.

(iii) *History, Economics and Politics.*

A candidate shall offer himself for examination in—

iii. History, Economics and Politics

1. The History of India.

2. Constitutional History of Great Britain and Ireland.

3. Politics.

4. Economics.

5. A special subject } to be selected from a list prescribed from time to time. (*a*)
6. A special subject }

He shall further be required to write an essay.

A candidate shall give notice through his college, a year before the date of the examination, of the particular subjects he proposes to take.

(iv) *Economics and Politics or History.*

iv. Economics and Politics or History.

A candidate shall be examined in :—

1. Economics I.

2. Economics II. (*b*)

3. Economic History. A general survey of the development of industry, trade and agriculture in Great Britain and India chiefly from 1700 A.D. and in France, Germany, U. S. A., from 1850.

(*a*) *Vide* page 320, 496.

(*b*) The question paper in Economics II will be set in two Parts. Part I—A comparative study of Modern Economic Theory, with special reference to a prescribed classic. Part II—Advanced questions in the present organisation of Industry and Trade, including International Trade.

4. A special subject in Economics—(to be selected from a list prescribed)*

5. & 6. *Two* out of the following *three* subjects—

Politics

Indian History (according to a syllabus)

A special subject in Economics—(to be selected from a list prescribed). *

7. Essay.

A candidate shall give notice through his college, a year before the date of the examination, of the particular subjects he proposes to take.

(v) *Two Languages other than English.*

v. Two Languages other than English.

The course in each language, the text-books prescribed and the examination therein shall be identical with those prescribed for the same language when offered as the selected language in Group (v) of the B.A. Pass Course, the related subjects and languages being excluded; provided that in the examination in each language in Branch (v) (Honours) there shall be an additional paper of three hours' duration in Composition, and provided that a candidate for the B.A. (Honours) Degree in Branch (v) who has passed the B.A. Degree Examination in Group (v) shall be exempted from examination in his selected language of the B.A. Degree Examination, except in respect of the additional paper in Composition specially prescribed for Branch (v) in this Regulation, and he shall be credited with the percentage of marks which he obtained in that language in the B.A. Degree Examination.

Special subjects in Economics :—

(1) Banking and Currency.
(2) Public Finance.
(3) Social Economics (including Labour Problems).
(4) Rural Economics (including Co-operation).
(5) Indian Land Tenures.

In cases where there is already provision for a paper in Composition under Group (v) of the B.A. Pass Course, the additional paper in Composition under Branch (v) (Honours) shall have special reference to certain set books of an advanced character that may be prescribed from time to time by the respective Boards of Studies concerned.

A candidate shall give notice through his college at least a year before the date of the examination, of the languages in which he proposes to appear.

(vi) *English Language and Literature.*

vi. English Language and Literature.

There shall be both a written and a *viva voce* Examination. The written examination shall consist of three divisions. There shall be three papers in division (a) five papers in division (b) and two papers in division (c).

(a) The History of the English Language : Old and Middle English.

The History of the English Language shall include phonology, accidence and syntax, also Germanic Philology so far as it bears on the English language. In Old and Middle English there shall be prescribed certain select texts. Ability to translate passages from Old and Middle English texts not prescribed shall be tested.

(b) The History of English Literature ; Shakespeare ; Modern English.

A candidate shall be required to show a knowledge of the whole course of the history of English literature. In Shakespeare a candidate shall, in addition to the detailed study of the prescribed plays, be required to show a general knowledge of Shakespeare's works and of Shakespearean criticism. In modern English there shall be a number of set books in prose and poetry of the 15th, 16th, 17th, 18th and 19th centuries. A candidate shall be required to make a detailed study of the texts, marked with an asterisk and to show a general knowledge of the other prescribed texts.

(c) Special Period or subject.

A candidate shall be required to offer for examination a special period or subject selected by him from the following list:—

1. Literature of the 14th and 15th Centuries.
2. Elizabethan Literature, (*i.e.*, 1558-1637).
3. The Age of Milton and Dryden.
4. The Age of Pope and Johnson.
5. Wordsworth and his contemporaries.
6. Tennyson and his contemporaries.

A candidate shall be required to show a knowledge of the writings of the chief authors of the period selected. He shall also be examined on certain set books of the period selected.

7. Indo-Germanic Philology with special reference to Sanskrit.
8. Indo-Germanic Philology with special reference to Gothic.

A candidate selecting (7) shall be examined in certain set books in Sanskrit. A candidate offering (8) shall be examined in select extracts of the literary remains of Gothic.

Books or groups of books set shall ordinarily continue the same for not less than five years. A candidate shall give notice through his college at least a year before the date of the Examination of the books or groups of books which he proposes to offer.

The *viva voce* Examination shall be held as soon as possible after the Examiners have read the written answers of the candidates. No fixed proportion of marks shall be assigned to it: its purpose is to assist the examiners in placing the candidates.

(vii) *Sanskrit Language and Literature.*

Courses of Study—

vii. Sanskrit Language and Literature.

1. Every candidate, who presents himself for this branch of the Honours B.A. Examination, shall be required to possess a sound knowledge of the principles of comparative philology and of the elements of comparative grammar with special reference to the important Indo-Germanic languages.

2. The course of studies shall further consist of one part fitted to equip the student with a general knowledge of the Sanskrit language and literature, and also of another part fitted to enable him to acquire a special knowledge of any specified branch or branches of that literature as prescribed from time to time.

3. The course in the general part shall comprise—

(1) The history of the language ;

(2) The history of the literature in the language ;

(3) Grammar, prosody, and poetics ;

(4) Prescribed text-books in poetry and prose, the selections being fairly representative of the various stages in the life of the Sanskrit language and literature ;

(5) Translation from Sanskrit into English and from English into Sanskrit.

4. The course in the special part shall comprise—

(1) Prescribed text-books selected from any specified branch or branches of Sanskrit literature ;

(2) A critical and comparative enquiry into the contents and value of the specified branch or branches of the literature taken up for study by the candidate.

Examination—

1. There shall be a paper on the principles of comparative philology and the elements of Indo-Germanic comparative grammar.

2. In addition to this there shall be in the general part—

(1) One paper on the history of the Sanskrit language and literature ;

One paper on grammar, prosody and poetics ;

(3) One paper on the prescribed text-books, in which also there shall be questions on the grammar, structure and idiom of the language ;

(4) One paper on translation from as well as into Sanskrit, the passages given for translation not being taken from any of the prescribed text-books ;

and in the special part there shall be—

(1) Three papers on the prescribed text-books ;

(2) An essay in English on a subject intimately related to the specified branch or branches of Sanskrit literature from which the text-books of the special part are prescribed.

(viii) *Arabic Language and Literature.*

Courses of study—

viii, Arabic Language and Literature.

1. Every candidate, who presents himself for this branch of the Honours B.A. Examination, shall be required to possess a sound knowledge of the principles of comparative philology and of the elements of comparative grammar with special reference to the important Semitic languages.

2. The course of studies shall further consist of one part fitted to equip the student with a general knowledge of the Arabic language and literature, and also of another part fitted to enable him to acquire a special knowledge of any specified branch or branches of that literature as prescribed from time to time.

3. The course in the general part shall comprise—

(1) The history of the language;

(2) The history of the literature in the Language;

(3) Grammar, prosody and poetics;

(4) Prescribed text-books in poetry and prose, the selections being fairly representative of the various stages in the life of the Arabic language and literature ;

(5) Translation from Arabic into English, and from English into Arabic.

4. The course in the special part shall comprise—

(1) Prescribed text-books selected from any specified branch or branches of Arabic literature;

(2) A critical and comparative inquiry into the contents and value of the specified branch or branches of the literature taken up for study by the candidate.

Examination—

1. There shall be a paper on the principles of comparative philology and the elements of Semitic comparative grammar.

2. In addition to this there shall be in the general part—

(1) One paper on the history of the Arabic language and literature;

(2) One paper on grammar, prosody and poetics;

(3) One paper on the prescribed text-books in which also there shall be questions on the grammar, structure and idiom of the language;

(4) One paper on translation from as well as into Arabic, the passages given for translation not being taken from any of the prescribed text-books;

and in the special part there shall be—

(1) Three papers on the prescribed text books;

(2) An essay in English on a subject intimately related to the specified branch or branches of Arabic literature from which the text-books of the special part are prescribed.

(ix) *A Dravidan Language or Urdu and its Literature.*

Candidates shall be examined in—

(1) Essay.

(2) History of Language and Philology.

(3) Prescribed Text-books (General).

(4) Prescribed Text-books (Special)—either period or other Group.

(5) Grammar, Prosody and Poetics.

(6) *History of Literature and Literary Criticism.

(7) For all Languages except Urdu, South Indian History and Inscriptions, and for Urdu—Arabic, or Persian or Hindi.

(8) Translation from English into the Language.

16. A candidate shall be declared to have passed the Examination in one of the branches of knowledge for the B.A. (Honours) Degree if he obtains not less than 40 per cent. of the total marks and not less than 30 per cent. in each division of the examination, provided that the passing minimum in each division of the examination in Branch (v)—Two Languages other than English—shall be as specified hereunder. All other candidates shall be deemed to have failed in the examination for Honours. The divisions shall be as follows :—

Marks qualifying for a Pass.

Divisions of Examinations.

Branch i. (a) Pure Mathematics, (b) Applied Mathematics, (c) Optional Subject.

Branch ii.

(a) i. Psychology ; ii. Theory of Knowledge *or* Ethics.

(b) i. Outlines of Indian Philosophy ; ii. European Philosophy.

(c) i. Special subjects (two papers) ; ii. Essay.

Branch iii. (a) Indian History and Constitutional History, (b) Politics and Economics, (c) Special Subjects.

Branch iv.

(iv) (1) Economics I and II.

(2) Economic History and Special subject.

(3) Optional subjects.

Branch v. (a) All the five papers in the first Language, excluding the additional paper in Composition.

(b) The additional paper in Composition in the first language.

(c) All the five papers in the second language excluding the additional paper in Composition.

(d) The additional paper in Composition in the second language.

The passing minimum in each of the two divisions of the examination in an Indian Vernacular shall be 40 per cent., while in other cases it shall be 35 per cent. in each of the two divisions.

Branch vi. (a) English Language, (b) English Literature and (c) Special period or subject.

Branches vii and viii. (a) Comparative Philology and Comparative Grammar, (b) General Part, (c) Special part.

Branch ix (a) History of Language and Philology, and History of Literature and Literary Criticism ;

(b) Prescribed text-books (General and Special), and Grammar, Prosody and Poetics ;

(c) Essay, Translation from English into the Language, and

South Indian History and Inscriptions (in the case of Dravidian Languages),

or

Arabic, or Persian, or Hindi (in the case of Urdu.)

Classification of successful candidates.

17. Successful candidates in the Examination shall be ranked in the order of proficiency as determined by the total marks obtained by each and shall be arranged in three classes :—

Candidates who obtain not less than 60 per cent. of the aggregate marks shall be placed in the *first* class ; those who obtain less than sixty per cent. but not less than fifty per cent. shall be placed in the *second* class; and all the other successful candidates shall be placed in the *third* class.

Candidates for Honours recommended for B. A. Degree.

18. In the event of a candidate for the B.A. (Honours) Degree failing to satisfy the Examiners he may be recommended by them for the B. A. Degree provided that he obtains not less than $33\frac{1}{3}$ per cent. of the total marks and not less than 25 per cent. in each division of the examination.

Candidates failing in Honours may appear privately for B. A.

19. A candidate not already eligible for the B. A. Degree, who, having failed completely in the B.A. (Honours) Degree Examination, desires to appear for the B.A. Degree Examination shall be allowed to do so without the production of a further certificate of attendance in an affiliated or a constituent college.

Candidates unable to present for B.A. (Honours) may appear privately for B.A.

20. A candidate not already eligible for the B. A. Degree who, after being registered, presents himself for the B.A. (Honours) Degree Examination in any year, and withdraws from the same and is prevented, through illness or otherwise, from subsequently presenting himself for examination within the period prescribed under Regulation 11 (1) of this Chapter, shall be allowed to appear for the B.A. Degree Examination without the production of a further certificate of attendance in an Affiliated or a Constituent College.

CHAPTER XLI.

M.A. DEGREE IN RESEARCH.

1. This Degree shall be called the Master of Arts Degree (M.A.), and will be awarded only to persons who do not come within the provisions of the Regulations for a first degree, who have shown exceptional aptitude for original research, and who have undertaken an approved course of special study and research in conformity with the conditions prescribed hereunder:—

2. A candidate for the Research Degree shall apply to the Registrar to be registered as a research student, stating in his application.

(1) the special subject in which he intends to prosecute research, and

(2) the name of the person who will supervise his research work, accompanied with a written consent of the latter agreeing to supervise that work.

He shall also produce a certificate of age and submit evidence of his qualification, attainments and previous study and research.

The application and thesis must be forwarded so as to be received by the Registrar between 1st November and 1st December of every year.

3. Every such application will be forwarded in the first instance to the Board of Studies concerned for opinion and remarks. If the Board recommended the application and the same be approved by the Syndicate, the candidate shall be registered as a research student. The application will not be recommended unless (1) the applicant's knowledge of English is of at least the Intermediate standard, (2) the course of research selected is such as can be conveniently pursued under the auspices of the University, and (3) the candidate produces such evidence as regards his general educational qualifications and special knowledge of his subject of research as could be deemed adequate for purposes of carrying on the same. The decision of the Syndicate shall be final.

4. A candidate so registered as a research student shall prosecute a course of special study or research for a period of not less than two years under a competent person approved by the Syndicate.

5. Within six months of the expiration of the second year every candidate shall submit to the Syndicate (together with a fee of Rs. 100) four copies of a thesis, printed or type-written in English, embodying the results of the research carried out by him, together with the report of the person deputed to supervise his work on the work done by him. He shall state, in a preface to the thesis, the sources from which he has derived information or guidance for his work, the extent to which he has availed himself of the work of others and the portions of the thesis which he claims as original. He shall also be required to declare that the thesis submitted is not substantially the same as one that has already been submitted for a degree at any other University.

6. The thesis shall be valued by a Board of Examiners consisting of the person who has supervised the research work and two others specially appointed for the purpose by the Syndicate. In addition to the written thesis, the candidate may, at the discretion of the Examiners be required to undergo an oral or practical test, or

both, on the subject of the thesis. The examiners shall have power to take into consideration, along with the thesis, any related memoir or work published by the candidate which he may desire to submit to them.

7. If the examiners, do not approve of the thesis once submitted, the candidate may submit after an interval of not less than one year, a new or revised thesis, together with a similar fee of Rs. 100, and the procedure described above will be followed in respect of the second thesis.

8. If the Syndicate decide, after consideration of the report of the Examiners, the thesis to be one of sufficient distinction to entitle the candidate to the research degree, a resolution to that effect will be passed by the Syndicate, and communicated to the candidate who will be admitted to the degree under the usual conditions.

CHAPTER XLII.

DEGREE OF DOCTOR OF PHILOSOPHY.

1. A Bachelor of Arts in Honours or Master of Arts of the University of Madras may offer himself as a candidate for the Degree of Doctor of Philosophy (Ph.D.) provided three years have elapsed from the time when he passed the examination for the Degree of Bachelor of Arts (Honours) or Master of Arts, as the case may be.

2. The candidate shall state in his application the special subject within the purview of the Regulation for the Degree of Bachelor of Arts (Honours) or Master of Arts, upon a knowledge of which he rests his qualification for the Doctorate, and shall, with his application, transmit three copies, printed or type-written, of an *unpublished thesis that he has composed upon some

*Note.—The word "unpublished" refers to publication of the thesis in book-form for sale and does not refer to publication in journals of learned Societies.

special portion of the subject so stated, embodying the result of research, or showing evidence of his own work, whether based on the discovery of new facts observed by himself, or of new relations of facts observed by others, whether constituting an exhaustive study and criticism of the published work of others, or otherwise forming a valuable contribution to the literature of the subject dealt with, or tending generally to the advancement of knowledge. The candidate shall indicate generally in the preface to his thesis and specially in notes, the sources from which his information is taken, the extent to which he has availed himself of the work of others, and the portions of the thesis which he claims as original; he shall further state whether his research has been conducted independently, under advice or in cooperation with others, and in what respects his investigations appear to him to tend to the advancement of knowledge.

The candidate shall further certify that the thesis has not previously formed the basis for the award of any degree, diploma, associateship, fellowship or other similar title.

3. The candidate may also forward with his application three printed copies of any original contribution or contributions to the advancement of the special subject professed by him, or of any cognate subject, which may have been published by him independently or conjointly, and upon which he relies in support of his candidature.

The application and thesis must be forwarded so as to be received by the Registrar between 1st November and 1st December of any year.

4. The thesis mentioned in Regulation 2 and the original contributions, if any, mentioned in Regulation 3 shall be referred by the Syndicate to a Board of three Examiners.

5. If the thesis is approved by the Board, the candidate shall not be required to submit to any further written

examination; but he may be required by the Board, at their discretion, to appear before them to be tested orally with reference to the thesis and the special subject selected by him. The Board shall report to the Syndicate the result of the examination of the thesis and of the oral examination, if any; and if the Syndicate upon the report, considers the candidate worthy of the Degree of Doctor of Philosophy, it shall cause his name to be published, with the subject of his thesis, and the titles of his published contributions (if any) to the advancement of knowledge.

6. Every candidate shall be at liberty to publish his thesis and the thesis of every successful candidate may be published by the University with the inscription 'Thesis approved for the Degree of Doctor of Philosophy in the University of Madras.'

CHAPTER XLIII.

DEGREE OF BACHELOR OF SCIENCE (PASS)

Admission to Examination.

1. Subject to the Laws of the University regarding recognition of examinations of other Universities as equivalent to the Intermediate Examination of this University, persons who have been declared to have passed the Intermediate Examination in Arts and Science of this University, and have satisfied the requirements of paragraph 2 of Regulation 5 of Chapter XXXVIII, shall undergo a further course of study in a Constituent or an Affiliated College to proceed to the B.Sc. Degree Examination.

Courses of study.

2. The course for the B.Sc. Degree shall extend over a period of two years, each consisting of three terms ordinarily consecutive, and shall comprise instruction in the following subjects, according to a syllabus to be prescribed from time to time.

Part I—Language course—(a) English or (b) any one of the following Languages, at the option of the candidate :—

(i) Indian Languages :	Tamil.	Marathi.
	Telugu.	Oriya.
	Kanarese.	Burmese.
	Malayalam.	Sinhalese.
	Urdu.	Hindi.
(ii) Foreign (Modern European) Languages :—	French.	German.
(iii) Classical Languages :—	Sanskrit.	Arabic.
	Greek.	Persian.
	Latin.	Hebrew.

Part II—Any three of the following branches of knowledge one of which shall be a main subject and the other two be subsidiary subjects :—

1. Mathematics
2. Physics
3. Chemistry
4. Botany
5. Zoology
6. Geology
7. Mechanical Engineering
8. Electrical Engineering

provided that subjects Nos. 7 and 8 can be taken only as Subsidiary subjects and with Physics as the Main subject.

3. The course of study and the scheme of Examination shall be as detailed below :—

Part I—Language Course :—

The examination shall be a written one and the course and the scheme of examination shall be as follows :—

(a) *English.*—The course shall be : (i) Composition on matter supplied by books set for perusal ; and (ii) the study in detail of certain prescribed books in Modern Prose.

The Examination shall consist of two papers, *viz* :—

(1) Composition—	3 hours.
(2) Prose—	3 hours.

(b) (i) *Indian Languages.*—The course shall be : (*i*) Translation from the selected language into English and *vice versa* ; and (ii) Composition on matter supplied by books set for non-detailed study.

The Examination shall consist of two papers, *viz.*:—

(1) Translation—	2 hours.
(2) Composition—	2 hours.

(ii) and (iii) *Other Languages.*—The course shall be ; (i) Translation from the selected language into English and *vice versa* : and (ii) prescribed text-books.

The Examination shall consist of two papers *viz.*:—

(1) Translation—	2 hours.
(2) Prescribed Text-books—	2 hours.

Part II—Optional Subjects:—

The course of study in the subjects both Main and Subsidiary shall be according to a syllabus to be prescribed from time to time.

The scheme of examination in the several subjects shall be as detailed below:—

MATHEMATICS.

Main:—

The Examination shall be a written one and the scheme of examination shall be as follows:—

1. Algebra and Trigonometry .. 3 hours.
2. Geometry .. 3 hours.
3. Calculus .. 2½ hours.
4. Dynamics .. 2½ hours.

Subsidiary:—

The examination shall be a written one and the scheme of examination shall be as follows:—

1. I Paper .. 3 hours.
2. II Paper .. 3 hours.

PHYSICS.

Main:—

The examination shall be both written and practical and the scheme of examination shall be as follows:—

Written

1. Dynamics and Hydrostatics .. 2½ hours.
2. Properties of Matter and Heat .. 2½ hours.
3. Light and Sound .. 2½ hours.
4. Electricity and Magnetism .. 2½ hours.
5. Practical Examination .. 6 hours.

Candidates shall also submit their Laboratory note-books for examination.

Subsidiary:—

The examination shall be both written and practical and the scheme of examination shall be as follows:—

1. General Physics, Heat and Sound .. 2 hours.
2. Light, Electricity and Magnetism .. 2 hours.
3. Practical Examination .. 3 hours.

CHEMISTRY.

Main:—

The examination shall be both written and practical and the scheme of examination shall be as follows:—

Written

1. General Chemistry .. 3 hours.
2. Inorganic Chemistry .. 3 hours.
3. Organic Chemistry .. 3 hours.

Practical.

4. Inorganic Chemistry .. 6 hours.
5. Organic Chemistry .. 3 hours.

Candidates shall also submit their Laboratory note-books for examination.

Subsidiary:—

The examination shall be both written and practical and the scheme of examination shall be as follows:—

Written

1. General and Inorganic Chemistry .. 3 hours.
2. Organic Chemistry .. 2 hours.
3. Practical Examination .. 3 hours.

BOTANY.

Main:—

The examination shall be both written and practical and the scheme of examination shall be as follows:—

1. Written Examination I .. 3 hours.
2. Written Examination II .. 3 hours.
3. Practical Examination I .. 3 hours.
4. Practical Examination II .. 3 hours.

The students shall also submit their Laboratory note-books and their collection of plants for examination.

Subsidiary:—

The examination shall be both written and practical and the scheme of examination shall be as follows:—

1. Written Examination I .. 2 hours.
2. Written Examination II .. 2 hours.
3. Practical Examination .. 3 hours.

ZOOLOGY.

Main:—

The examination shall be both written and practical and the scheme of examination shall be as follows:—

1. Written Examination I .. 3 hours.
2. Written Examination II .. 3 hours.
3. Practical Examination I .. 3 hours.
4. Practical Examination II .. 3 hours.

The candidates shall also submit at the time of the Examination their Laboratory note-books.

Subsidiary:—

The examination shall be both written and practical and the scheme of examination shall be as follows:—

1. Written Examination I .. 2 hours.
2. Written Examination II .. 2 hours.
3. Practical Examination .. 3 hours.

GEOLOGY.

Main:—

The examination shall be both written and practical and the scheme of examination shall be as follows:—

1. Written Examination I .. 3 hours.
2. Written Examination II .. 3 hours.
3. Practical Examination I .. 3 hours.
4. Practical Examination II .. 3 hours.

Candidates shall also submit their Laboratory note-books and their collection for examination.

Subsidiary:—

The examination shall be both written and practical and the scheme of examination shall be as follows:—

1. Written Examination I .. 2 hours.
2. Written Examination II .. 2 hours.
3. Practical Examination .. 3 hours.

MECHANICAL ENGINEERING.

Subsidiary:—

The examination shall be both written and practical and the scheme of examination shall be as follows:—

1. Written Examination I .. 2 hours.
2. Written Examination II .. 2 hours.
3. Practical Examination .. 3 hours.

ELECTRICAL ENGINEERING.

Subsidiary:—

The examination shall be both written and practical and the scheme of examination shall be as follows:—

1. Written Examination I .. 2 hours.
2. Written Examination II .. 2 hours.
3. Practical Examination .. 3 hours.

Eligibility for the Deree.

4. No candidate shall be eligible for the Degree of Bachelor of Science until he has completed the course of study prescribed unless he is exempted and has passed the examination in the subjects prescribed for the course in Regulation 2 *supra.*

Examination in Part I.

5. A candidate for the B.Sc. Degree Examination may present himself for Part I at the end of the first year of the course and thereafter may at his option present himself for the whole or for either Part at any one time.

Marks qualifying for a pass

6. A candidate shall be declared to have passed Part I of the Examination if he obtains not less than 40 per cent. of the total number of marks. A candidate shall be declared to have passed Part II of the Examination if he obtains not less than (1) 30 per cent. in each of the two Subsidiary subjects, (2) except in the case of Mathematics 30 per cent. in each of the divisions of the Main subject, viz., (a) Written Examination and (b) Practical Examination, (3) 35 per cent. of the total marks in the Main subject, and (4) 35 per cent. of the Grand Total (Main and Subsidiary subjects). All other candidates shall be deemed to have failed in the examination.

Classification of successful Candidates.

7. There shall be separate lists of the successful candidates in each Part. Candidates obtaining not less than 60 per cent of the total marks in Part I shall be declared to have passed with distinction in English.

In the case of the candidates in Part II, (a) those who obtain not less than 60 per cent. of the total marks shall be placed in the first class, (b) those who obtain less than 60 per cent. but not less than 50 per cent. of the total marks shall be placed in the second class and (c) all the other successful candidates shall be placed in the third class.

8. Nothing in these Regulations shall prevent a candidate who has already passed the B.A. (Hons.) Preliminary Examination and who has taken Mathematics as optional Branch or Part I of the B.Sc. (Honours)

Examination of this University from appearing for Part II of the B.Sc. (Pass) Degree Examination on the production of the prescribed certificates of attendance in the subjects under Part II, to qualify for the B.Sc. Degree. He shall be exempted from examination in Part I—English—of the B.Sc. Degree.

B A's. in Science subjects may qualify for B.Sc.

9. A candidate who has qualified for the B.A. Degree in Group (ii-A), or (ii-B) or (iii) under the Old Regulations or in Group (ii) under the New Regulations shall be permitted to appear for the B.Sc. Degree Examination after one year's course in a Constituent or an Affiliated College, provided—

(a) he takes as his main subject for the examination a Science subject different from the main and subsidiary subjects taken by him for the B.A. Degree Examination, in which case he shall be exempted from examination in the subsidiary subjects, and the percentages of marks secured by him in the B.A. Degree Examination in the main and subsidiary subjects shall be taken as the percentages of his marks in the two subsidiary subjects;

or

(b) he takes as his main subject for the examination the subsidiary subject which he took for the B.A. Degree examination, in which case he shall be required to offer as a subsidiary subject a Science subject other than his main subject for the B.A. Degree Examination, and he shall be exempted from examination in a second subsidiary subject, and the percentage of marks secured by him in the B.A. Degree Examination in the main subject shall be taken as the percentage of his marks in the second subsidiary subject.

Candidates coming under this Regulation shall be exempted from examination in Part I—English.

10. A Candidate who has qualified for the B.A. Degree in Mathematics under Group (i) Old Regulations or under Group (i-A) or (i-B) New Regulations or the B.A. (Honours) Degree in Branch I—Mathematics—shall be permitted to appear for the B.Sc. Degree Examination after one year's course in a Constituent or an Affiliated College, provided he takes for his course two subjects other than Mathematics, one of which shall be his Main subject and the other his Subsidiary subject other than Mathematics. He shall be exempted from examination in Part I—English and in Mathematics as a Subsidiary subject, and shall be credited with the percentage of marks secured by him in the B.A. or B.A. (Honours) Degree Examination in the subject under Part II.

B.A.'s. and B.A. (Hons.) in Mathematics may qualify for B.Sc.

11. A candidate who has qualified for the B.A. Degree in a Group other than any of those specified in Regulations 9 and 10 *supra* shall be permitted to appear for the B.Sc. Degree Examination after a two years' course in a Constituent or an Affiliated College; he shall be exempted from examination in Part I—English.

B.A.'s in Arts subjects to qualify for B.Sc.

CHAPTER XLIV.

DEGREE OF BACHELOR OF SCIENCE (HONOURS).

A. Courses of Study.

1. For the B.Sc. Honours Degree the course shall extend over a period of not less than three years, and shall comprise instruction in—

Courses of Study.

Part I English.

Part II

Either

one of the following branches of knowledge:—

i. Mathematics,

ii. Physics, with Chemistry or Mathematics as a **subsidiary subject,**

iii. Chemistry with Physics as a subsidiary subject,

or

one of the following as main subject and any other two of those prescribed for the B.Sc. Degree as subsidiary subjects:—

iv. **Botany.**

v. **Zoology.**

vi. **Geology.**

Subjects

2. The courses of study in Part I—English and in the subsidiary subjects under Part II shall be the same as for the B.Sc. Degree. The courses of study in the main subject are as detailed below:—

i. Mathematics.

A candidate shall be required to have a sound knowledge of—

i Mathematics

(*a*) Pure Mathematics:

1. Pure Geometry including Projective Geometry.
2. Algebra and Theory of Equations.
3. Plane Trigonometry.
4. Differential and Integral Calculus, including Reimann integration. Cauchy's theorem on Contour integration and Fourier's series.
5. Elementary Differential Equations.
6. Co-ordinate Geometry of two dimensions.
7. Solid Geometry—the line, plane, sphere and surfaces of the second degree.

(*b*) Applied Mathematics:

1. Statics, excluding the theory of potentials.
2. Dynamics of a Particle.
3. Dynamics of a Rigid Body—motion in two dimensions.
4. Hydrostatics.
5. Astronomy, general and elementary spherical.

(*c*) Two of the following subjects at the option of the candidate:—

1. Dynamics	... ...	A special subject.
2. Astronomy	... ...	Do.
3. The Potentials	... ...	Do.
4. Elasticity	... ...	Do.
5. Hydrodynamics and Sound		Do.
6. Heat	... ...	Do.

A candidate shall give notice, through his college, a year before the date of the examination, of the particular subjects he proposes to take.

The examination shall be a written one and the scheme of examination shall be as follows:—

Pure Mathematics I	..	3 hours	175 marks.
Applied Mathematics I	..	3 "	175 "
Pure Mathematics II	..	3 "	175 "
Applied Mathematics II	..	3 "	175 "
Pure Mathematics III	..	3 "	175 "
Applied Mathematics III	..	3 "	175 "
Optional Subject I	..	3 "	175 "
" " II	..	3 "	175 "
		Total	1,400 marks.

The papers shall contain questions on the principles developed in the ordinary treatment of the subject as well as exercises of moderate difficulty arising therefrom.

ii. Physics.

ii. Physics.

A candidate shall be required to have a sound knowledge of the experimental side of the following subjects, and also such knowledge of the theoretical side of each as may be obtained by the applications of the calculus, and simple differential equations:

1. Properties of matter.
2. Heat.
3. Geometrical and Physical Optics.
4. Sound.
5. Magnetism and Electricity.

A candidate shall also be required to have a special knowledge, experimental and theoretical, of *one* of the following subjects, the choice of the subject being left to the option of the candidate:—

1. Thermodynamics.
2. Theory of Heat Conduction.
3. Kinetic Theory of Gases and its applications.
4. Theory of Electricity and Magnetism.
5. Radio activity.
6. Theory of Sound.
7. Wave Theory of Light.
8. Radiation—A. Electrical Waves, Wireless Telegraphy and Telephony.
9. Radiation—B. X-Rays and their applications.

A candidate shall give notice, through his college, a year before the date of the examination, of the particular subject he proposes to take.

The examination shall be both written and practical, and the scheme of examination shall be as follows:—

Properties of Matter	..	3 hours	100 marks.
Heat and Sound	..	„	100 „
Sound and Light	..	„	100 „
Magnetism and Electricity	..	„	100 „
Optional Subject	..	„	100 „
*Modern Physics	..	„	100 „
Practical Examination I	..	„	100 „
„ „ II	..	„	100 „
„ „ III	..	„	100 „
„ „ IV	..	„	100 „
Laboratory Note-books	..	..	200 „
		Total ..	1,200 marks.

At the practical examinations candidates will be expected to make physical measurements and observations of the more advanced kind.

Each candidate shall submit his laboratory note-books containing the record of all his practical work performed during the period of study for the examination. The record shall be countersigned by the professor or professors under whom the candidate has worked to certify it to be a *bona-fide* record of work performed by the candidate. It shall be submitted on the first day of the practical examination to the examiners engaged in conducting the examination.

iii. Chemistry.

iii. Chemistry

A candidate shall be required to show that he has made a more comprehensive study than for the B.A. degree, of the four main divisions of the subject:—

1. General theoretical Chemistry including its historical development.

*With effect from the Examination of March 1937.

2. Physical Chemistry.
3. Inorganic Chemistry.
4. Organic Chemistry.

A candidate shall also be required to have a special knowledge, experimental and theoretical, of *one* of the following subjects, the choice of subjects being left to the option of the candidate:—

1. Electro-Chemistry.
2. Mineralogy and Elementary Crystallography.
3. Elementary Crystallography and Stereo-chemistry.
4. Metallurgical Chemistry.
5. Tinctorial Chemistry.
6. Bio-Chemistry.
7. Chemistry of the rare earths and radio-elements.

A candidate shall give notice, through his college, a year before the date of the examination, of the particular subject he proposes to take.

The examination shall be both written and practical, and the scheme of examination shall be as follows:—

General Chemistry	..	3 hours	125 marks.
Physical Chemistry	..	„	125 „
Inorganic Chemistry	..	„	125 „
Organic Chemistry	..	„	125 „
Optional subject	..	„	150 „
Practical Examination I „ „ II „ „ III „ „ IV		„	400 „
Laboratory Note-books		„	200 „
		Total	1,250 marks.

A candidate shall be required to be practically familiar with:—(*a*) The ordinary methods of qualitative inorganic analysis. (*b*) The chief volumetric and gravimetric methods of analysis of inorganic compounds including simple gas analysis. (*c*) The methods of detection and estimation of the more important organic radicals and the preparations of pure organic compounds. (*d*) The estimation of carbon, hydrogen, nitrogen, sulphur and halogens in organic compounds. (*e*) The more important methods of physico-chemical measurements.

Each candidate shall submit his laboratory note-books containing the record of all his practical work performed during the period of study for the examination. The record shall be countersigned by the professor or professors under whom the candidate has worked to certify it to be a *bona-fide* record of work performed by the candidate. It shall be submitted on the first day of the practical examination to the examiners engaged in conducting the examination.

iv. Botany.

A comprehensive study of the following branches of Botany :—

iv. Botany

1. Morphology and Taxonomy of—
   (a) Thallophytes.
   (b) Bryophytes.
   (c) Pteridophytes.
   (d) Gymnosperms.
   (e) Angiosperms.
2. Ecological and Geographical distribution of Phanerogams with special reference to South India.
3. Fungi, specially with reference to their economic importance.
4. Plant Physiology.
5. Plant Histology.

6. Physiological Anatomy.
7. Palaeobotany.
8. Cytology and Genetics.
9. Principles of Evolution and Heredity.
10. The chief economic plant products.

Each candidate will also be required to present as a special subject a topic chosen from one of the sections mentioned above. He must give notice, through his college, a year before the examination, of the particular subject he proposes to present.

The examination shall be both written and practical, and the scheme of examination shall be as follows:—

			Marks.
Written Examination	I (Algæ, Fungi, etc.) ...	3 hours	125
" "	II (Pteridophytes etc.) ...	"	125
" "	III (Histology, etc.) ...	"	125
" "	IV (Systematic Botany etc.) ...	"	125
" "	V (Special subject) ...	"	100
Practical Examination	I ...	"	100
" "	II ...	"	100
" "	III ...	"	100
" "	IV ...	"	100
Laboratory Records and Collections ...		...	100
		Total ...	1,100

The practical examination may include—

1. The identification of Indian plants with the help of a FLORA or any other books allowed by the Examiners.

2. The preparation and correct interpretation of microscopic sections of plants.

3. The examination of a diseased or abnormal plant.

4. Practical Physiology and *viva voce* questions.

Each candidate shall be required to submit a collection of named flowering plants, collected and preserved by himself. There may be also plants of any of the other main divisions of the vegetable kingdom.

v. Zoology.

v. Zoology

*The course shall be more complete than that for the B.A. Degree. The candidate will, in addition to the scheme already outlined, be expected to have a knowledge of minor groups like the Mesozoa, the more important groups of extinct animals, the early development of the chick and the outlines of vertebrate embryology and to go into the classification more fully. The practical work will not be confined to the types enumerated. The candidate may be required to dissect any of the more common types of animals included in the classes they study, to identify specimens with the aid of manuals, to report upon zoological collections, to make microscopical preparations, to cut sections with the microtome, and to show their practical acquaintance with the methods employed in studying the embryology of the chick. Candidates may also be examined by *viva voce* questions.

*This syllabus will be in force only for the examinations of 1935.

The Examination shall be both written and practical, and the scheme of examination shall be as follows:—

			Marks.
Written Examination	I (Invertebrate I) ...	3 hours	175
" "	II (" II) ...	"	175
" "	III (Chordate) ...	"	175
" "	IV (General Principles) ...	"	175
Practical Examination	I ...	...	100
" "	II ...	...	100
" "	III ...	...	100
Laboratory Note-books	...	...	100
		Total ...	1,100

(THE FOLLOWING COURSES OF STUDY WILL TAKE EFFECT FROM THE EXAMINATION OF 1936.)

Note.—From the beginning of the course in July 1933.

Theory.

The course shall be the same as for the B. Sc. Pass (Zoology Main) but treated more fully. In addition, candidates shall be expected to have made a special study of any one particular group of animals or any one of the following branches of Zoology:—

Cytology, Genetics, Histology, Invertebrate Embryology, Vertebrate Embryology, Animal Ecology, Marine Zoology, Entomology, Parasitology, and Palaeontology.

Practical.

The practical work will not be confined to the types enumerated for the B.Sc. Pass. Candidates may be required to dissect any of the more common types of animals included in the groups prescribed, to identify specimens with the aid of manuals, to report on zoological collections, to make microscopic preparations, to cut sections with the microtome, and to show their practical acquaintance with the methods employed in studying the embryology of the Chick.

Candidates may also be examined by *viva voce* questions.

Candidates shall submit their laboratory record of all practical work performed during the period of their study.

The examination shall be both written and practical, and the scheme of examination shall be as follows:—

			Marks.
Written Examination	I (Invertebrate)	...3 hours	140
" "	II (Chordate) ...	"	140
" "	III (Vertebrate Embryology) ...	"	140
" "	IV (General Principles) ...	"	140
" "	V (Special subject).	"	140
Practical Examination	I ...	... ...	100
" "	II ...	... ...	100
" "	III ...	... ...	100
Laboratory Note-books	...	... ...	100
		Total...	1,100

Each candidate shall give notice, through the College, a year before the date of the examination, of the special subject he proposes to present.

vi. Geology.

vi. Geology The syllabus of the B.Sc. Degree course treated more fully with the following additions:—

Mineralogy and Crystallography.—The thirty-two types of crystal symmetry, theories of crystal structure, systems of crystal notation, zonal characters, crystal projections

and drawing; twin crystals, grouping and irregularities of crystals, parting planes, percussion figures, etched figures, etc. Use of the Reflecting Goniometer. General mathematical relations of crystals and measurement of crystal angles.

Description and determination of minerals by chemical and physical tests.

The chief ores and minerals of commercial value; their distribution, occurrence, with special reference to Indian examples, and their uses; nature and structure of chief types of ore deposits.

Petrology.—The principles underlying the genesis and classification of rocks. Mechanical separation of rock constituents; examination of sands; methods of the preparation of rock sections for the microscope. Optical properties of crystals. Practical determination of the optical characters of the chief rock forming minerals with the petrological microscope, including the use of convergent light. Determination of the nature and history of rocks by means of the microscope.

Structural and Field Geology.—The relationships of structure of relief, drainage and economics. The composition and structure to rock masses as influencing scenery. Weathering and formation of soils. Each candidate is required to map and describe from his own personal observations the geology of an area elected by himself with the approval of the Professor.

Stratigraphy and Palaeontology.—The geological formations with their lithology, sub-divisional fossils, correlation and economics. The physical geography and vulcanicity of the different periods. General distribution of existing faunas and floras and their relation to those of former geological periods; morphological characters of the more important types of fossils; drawing of fossils; Geology of India brought up to date.

The examination shall be both written and practical and the scheme of examination shall be as follows:—

			Marks.
Written Examination	I (General Geology and Structural).	3 hours	100
„ „	II (Stratigraphy and Palæontology) .	„	100
„ „	III (Mineralogy) ..	„	100
„ „	IV (Petrology) ...	„	100
„ „	V (Special subject)*.	„	100
Practical Examination	I ...	... ...	100
„ „	II ...	... ...	100
„ „	III ...	.. ...	100
„ „	IV ...	... ...	100
Laboratory Note-books and other records relating to Practical Work and Specimens		...	100
		Total...	1,100

Viva voce questions may be asked.

Each candidate shall submit his Laboratory Note-book and other records relating to practical work and specimens.

B. Examinations.

Eligibility for the Degree

3. No candidate shall be eligible for the B.Sc. (Honours) Degree until he has passed the Examination in Part I—English—and in one of the six branches of knowledge and prescribed combinations of subjects detailed in the courses of study.

Examination in Part I

4. The examination in Part I—English—shall be the same as for the B.Sc. Degree Part I—English, viz.; in (1) Composition and (2) Prose. A candidate shall be declared to have passed if he obtains not

* With effect from the Examination of March 1937.

less than 40 per cent of the total marks for the two papers taken together; candidates obtaining not less than 60 per cent shall be declared to have passed with distinction. All other candidates shall be deemed to have failed in the examination.

Qualification for admission to the Examination

5. No candidate shall be admitted to the examination in Part I—English—unless he has passed the Intermediate Examination in Arts and Science in this University or an examination in some other University recognized by the Syndicate as equivalent thereto, and has undergone the prescribed course for one academic year. The examination in Part I— English—may be taken at the end of the first year of the Honours Course.

Examination in Subsidiary Subject

6. A candidate for the B.Sc. (Honours) Degree may appear for the Examination in the Subsidiary subject or subjects at the end of the second year of the course. He shall not be admitted to the Examination unless he has passed the Intermediate Examination in Arts and Science in this University or an Examination in some other University accepted by the Syndicate as equivalent thereto.

7. The Examinations in the Subsidiary subjects for the B.Sc. (Honours) Degree shall be the Examinations in the Subsidiary subjects for the B.Sc. (Pass) Degree.

Laboratory note-book

8. On the first day of the practical examination in his main subject every candidate shall submit his laboratory note-books containing the drawings and other record relating to all his practical work performed during the period of study for the examination. The record shall be countersigned by the professor or professors under whom the candidate has worked and shall be certified to be a *bona-fide* record of work performed by the candidate.

For Zoology—Candidates for the B.Sc. (Honours) Degree Examination in Zoology shall submit in addition to their Laboratory note-books a representative collection of microslides made by them during their course.

B.Sc.'s should undergo 2 years' course

9. A candidate, who has passed the B.Sc. Degree Examination, shall be permitted to appear for the B.Sc. (Honours) Degree Examination after a further course of two years in a constituent or an affiliated College, provided he has passed the B.Sc. Degree Examination in the subjects for which he desires to appear. He shall be exempted from Part I of the examination—English, and the examination in the subsidiary subject or subjects, and shall be credited with the marks which he obtained in those subjects in the B.Sc. Degree Examination.

Provided further, that a candidate who has passed the B.Sc. Degree Examination with Physics or Chemistry as the Main subject and with subjects other than Mathematics or Chemistry in the case of Physics (Main), and other than Physics in the case of Chemistry (Main), as subsidiary subjects, shall not be exempted from examination in the subsidiary subject, *but shall be required to pass in the related subsidiary subject prescribed in Regulation* 1 *of this Chapter.* He shall be permitted to appear for the Examination in the subsidiary subject either before or along with the examination in the Main subject.

10. A candidate who has qualified for the B.A. Degree in Group (i), (ii-A), (ii-B), or (iii) of the Old Regulations or in Group (i) or (ii) of the New Regulations shall be permitted to appear for the B.Sc. (Honours) Degree Examination, after a two years' course in a Constituent or Affiliated College, provided that the main subject offered for the B.Sc. (Honours) Degree Examination shall be the main subject in which he has already qualified for the B.A. Degree.

He shall be exempted from examination in Part I—English, and in the case of Branch ii or iii from re-examination in the subsidiary subject, if the subsidiary subject in which he has qualified for the B.A. Degree is Mathematics or Physics or Chemistry; and in the case of

Branches iv, v and vi from re-examination in the subsidiary subject in which he has qualified for the B.A. Degree. He shall be credited in the subsidiary subject with the percentage of marks gained in that subject in the B.A. Degree Examination.

A candidate appearing in Branch ii, iii, iv, v or vi shall be permitted to appear in the same year for both his main and subsidiary subjects.

A candidate proceeding to the B.Sc. (Honours) Degree Examination under this Regulation shall be required to appear for the Final Examination not later than three years after commencing the Honours course in a College.

11. A candidate for the B.Sc. (Honours) Degree shall appear for the Final Examination in Part II,

Time limit for appearance at Final Examination.

(1) not later than the end of the fourth year after passing the Intermediate Examination in Arts and Science; or not later than the month of March following the end of the fourth year in the case of candidates declared to have passed the examination in September; and

(2) in the case of Bachelors of Science proceeding to the B.Sc. (Honours) Degree Examination, not later than three years after commencing the B.Sc. (Honours) Degree course in a college.

12. No candidate shall be permitted to undergo the Final Examination in Part II for Honours more than once.

For purposes of this Regulation, the Final Examination shall mean the examination in the main subject.

A candidate for the Final Examination shall be permitted to withdraw from the examination provided he has not sat for the last paper in the written examination or the last practical examination in the subject; and

provided he has given notice of withdrawal to the Registrar, within three clear days from the date of the last paper (theory or practical) which he answered. He shall be permitted to appear again for the examination in the main subject in the following year without producing any additional certificate of attendance.

Nothing in this Regulation shall apply to the examination in the subsidiary subjects.

13. A candidate shall be declared to have passed the B.Sc. (Honours) Degree Examination if he has obtained not less than—

Marks qualifying for a pass

40 per cent of the total marks in Part I (English) and 40 per cent of the total marks in Part II and 30 per cent of the marks in each division of Part II.

Divisions of Examinations

The divisions shall be as follows:—

(i) *Mathematics.*—(*a*) Pure Mathematics, (*b*) Applied Mathematics, (*c*) Optional subjects.

(ii) *Physics or* (iii) *Chemistry.*—(*a*) Written examination in the main subject. (*b*) Practical examination and laboratory note-books in the main subject. (*c*) Subsidiary subject.

(iv) *Botany,* (v) **Zoology or* (vi) *Geology.*—(*a*) Written examination in the main subject. (*b*) Practical examination and laboratory note-books in the main subject. (*c*) A subsidiary subject. (*d*) Another subsidiary subject.

(TAKE EFFECT FROM THE EXAMINATION OF 1936).

(v) Zoology.

(*a*) Written Examination in the Main subject—(Papers I to IV).

*The existing divisions will be for 1935 Examination.

(*b*) Written Examination in the Main subject—(Paper V—Special subject).

(*c*) Practical Examination in the Main subject and Laboratory record.

(*d*) A subsidiary subject.

(*e*) Another subsidiary subject.

All other candidates shall be deemed to have failed in the examination.

Classification of successful Candidates

14. Candidates obtaining Honours shall be ranked in the order of proficiency as determined by the total marks obtained by each and shall be arranged in three classes:—

The *first*, consisting of those who obtain not less than 60 per cent; the *second*, of those who obtain not less than 50 per cent; and the *third*, of those who obtain not less than 40 per cent of the total marks.

Candidates for Honours recommended for B.Sc. Degree

15. In the event of a candidate for the B.Sc. (Honours) Degree failing to satisfy the Examiners in Part II of the examination he may be recommended by them for the B.Sc. Degree, provided that he has passed in Part I (English) and obtains not less than 33⅓ per cent of the total marks and not less than 25 per cent in each division of the examination in Part II.

Candidates failing in Honours may appear for B.Sc. privately

16. A candidate not already eligible for the B.Sc. Degree, who, having failed completely in the B.Sc. (Honours) Degree Examination, desires to appear for the B.Sc. Degree Examination, shall be allowed to do so without the production of a further certificate of attendance in a constituent or an affiliated college in the subjects in which he has already appeared.

17. A candidate not already eligible for the B.Sc. Degree who, after being registered, presents himself for the B.Sc. (Honours) Degree Examination in any year, and withdraws from the same and is prevented, through illness or otherwise, from subsequently presenting himself for examination within the period prescribed under Regulation 11 (1) of this Chapter, shall be allowed to appear for the B.Sc Degree Examination without the production of a further certificate of attendance in a constituent or an affiliated college.

Candidates unable to present for B.Sc. (Honours) may appear privately for B.Sc.

CHAPTER XLV.

DEGREE OF MASTER OF SCIENCE.

1. A holder of any one of the following Degrees of this University:—

(i) B.Sc. (Honours),

(ii) B.A. (Honours) in a Science subject,

(iii) M.A. in a Science subject,

or of a science degree of some other University accepted by the Syndicate as equivalent thereto, will be eligible for the Degree of M.Sc. on payment of a fee of Rs. 100, provided he produces satisfactory evidence that he has worked for not less than one year, after passing the examination held for candidates for the B.A. (Honours) or B.Sc. (Honours) Degree or the equivalent examination, under the direction of a Professor or other person approved prior to the candidate's starting work by the Syndicate in a Constituent or an Affiliated College or in a Research Institute approved by the Syndicate and has submitted between 1st November and 1st December an unpublished* thesis of original work done which is approved by each of three independent Judges nominated by the Syndicate.

**Note.*—The word "unpublished" refers to publication of the thesis in book-form for sale and does not refer to publication in journals of learned Societies.

2. A holder of any one of the following Degrees of this University:—

(i) B.Sc.

(ii) B.A. in a Science subject,

(iii) B.Sc. in Agriculture (B.Sc. Ag.).

(iv) or of a Science Degree of some other University accepted by the Syndicate as equivalent thereto;

will be eligible for the Degree of M.Sc. on payment of a fee of Rs. 100, provided he produces satisfactory evidence that he has worked for not less than two years, after passing the B.Sc. or B.A. or B.Sc. (Ag.) Degree Examination or the equivalent Examination under the direction of a Professor or other person approved prior to the candidate's starting work by the Syndicate in a Constituent or an Affiliated College or in a Research Institute approved by the Syndicate, and has submitted between 1st November and 1st December an unpublished* thesis of original work done which is approved by each of three independent Judges nominated by the Syndicate.

3. Where it appears to the Syndicate that there is no Professor or other person in a Constituent or an Affiliated College or Research Institute under whom a candidate can suitably work, the Syndicate, may, on being satisfied in such manner as it may in each case require that the candidate has done research work for not less than one year or two years as the case may be, grant exemption from the condition, prescribed in (1) and (2) above, of placing himself under a Professor or other person approved by the Syndicate.

4. A candidate shall with his thesis submit from the person under whom he has worked (a) a statement of the extent to which the thesis represents independent work on the part of the candidate and (b) a certificate that the thesis has not previously formed the basis for the award to the candidate of any degree, diploma, associateship, fellowship, or other similar title.

*Note.—The word "unpublished" refers to publication of the thesis in book-form for sale and does not refer to publication in journals of learned Societies.

5. A candidate for the M. Sc. Degree may also forward with his application three printed copies of any contribution or contributions to the advancement of the science professed by him or of any cognate branch of science already published by him independently or conjointly and upon which he relies in support of his candidature. The date and Journal in which any such supplementary paper has been published shall be stated.

6. The candidate shall further certify that the thesis has not previously formed the basis for the award of any degree, diploma, associateship, fellowship or other similar title.

7. Notwithstanding anything contained in Regulations 1 and 2 of this Chapter, it shall be competent for the Syndicate to permit candidates to apply for the M.Sc. Degree who did not obtain the approval of the Syndicate before commencing work under a Professor or other person, as required under the Regulations, provided they commenced their work and applied to the Syndicate for approval before 31st December 1932 and the Syndicate is satisfied with the reasons for not obtaining its prior approval.

CHAPTER XLVI. (Regulations).

DEGREE OF DOCTOR OF SCIENCE

1. A Master of Arts in Science subjects or a Master of Science of the University of Madras, may offer himself as a candidate for the Degree of Doctor of Science (D.Sc.), provided three years have elapsed from the time when he passed the examination for the Degree of Bachelor of Science (Hons.), or Master of Arts in Science subjects or qualified for the degree of Master of Science.

2. The candidate shall state in his application the special subject within the purview of the Regulations for the Degree of Master of Science, upon a knowledge of which he rests his qualification for the Doctorate, and shall, with the application, transmit three copies, printed or typewritten, of a thesis that he has composed treating scientifically some special portion of the subject so stated, embodying the result of research, or showing evidence of his own work, whether based on the discovery of new facts observed by himself or of new relations of facts observed by

others, or tending generally to the advancement of Science. The candidate shall indicate generally in a preface to his thesis and specially in notes, the sources from which his information is taken, the extent to which he has availed himself of the work of others, and the portions of the thesis which he claims as original; he shall further state whether his research has been conducted independently under advice, or in co-operation with others, and in what respect his investigations appear to him to tend to the advancement of Science.

The candidate shall further certify that the thesis has not previously formed the basis for the award of any degree, diploma, associateship, fellowship or other similar title.

3. The candidate may also forward, with his application, three printed copies of any original contribution or contributions to the advancement of the Science professed by him, or any cognate branch of Science, which may have been published by him independently or conjointly, and upon which he relies in support of the candidature.

The application and thesis must be forwarded so as to be received by the Registrar between 1st November and 1st December of any year.

4. The thesis mentioned in Regulation 2 and the original contributions, if any, mentioned in Regulation 3, shall be referred by the Syndicate to a Board of three Examiners.

5. If the thesis is approved by the Board, the candidate shall not be required to submit to any further written examination; but he may be required by the Board at their discretion, to appear before them to be tested orally, or practically, or by both these methods, with reference to the thesis and the special subject selected by him. The Board shall report to the Syndicate the result of the examination of the thesis, and of the oral and practical examinations, if any; and if the Syndicate, upon the report, consider the candidate worthy of the Degree of Doctor of Science, it shall cause his name to be published with the subject of his thesis and the titles of his published contributions (if any) to the advancement of Science.

6. Every candidate shall be at liberty to publish his thesis and the thesis of every successful candidate may be published by the University with the inscription 'Thesis approved for the Degree of Doctor of Science in the University of Madras.'

CHAPTER XLVII. (Regulations).

DEGREE OF BACHELOR OF LAWS

Eligibility for the B. L. Degree.

1. No candidate shall be eligible for the Degree of Bachelor of Laws unless he has taken the Degree of Bachelor of Arts or Bachelor of Science in this University or a Degree in some other University accepted by the Syndicate as equivalent thereto, and has also passed the two Examinations in Law.

First Examination in Law.

Qualification of candidates

2. No candidate shall be admitted to the First Examination in Law, unless he forwards before the date of the commencement of the examination satisfactory evidence of having taken the Degree of Bachelor of Arts or Bachelor of Science of this University, or a Degree of some other University accepted by the Syndicate as equivalent thereto.

Subjects for Examination

3. Candidates for the First Examination in Law shall be examined in the following subjects:—

(i) Jurisprudence. (One paper).

(ii) Roman Law. (One paper).

(iii) The Law of Contracts, including Negotiable Instruments and Specific Relief. (Two papers).

(iv) The Law of Torts. (One paper).

(v) Indian Constitutional Law. (One paper).

Each paper shall be of three hours' duration, except the paper on Indian Constitutional Law which shall be of two hours' duration.

Marks qualifying for a pass.

4. (a) A candidate shall be declared to have passed the Examination if he obtains not less than forty per cent. of the total marks, and not less than one-third of the marks in each Division of the Examination. The Divisions shall be as follows:—

(i) Jurisprudence, Roman Law, and Indian Constitutional Law.

(ii) The Law of Contracts, including Negotiable Instruments and Specific Relief, and the Law of Torts.

All other candidates shall be deemed to have failed in the Examination.

(b) A candidate who fails in the whole Examination, but obtains not less than fifty per cent. of the marks in any Division shall be exempted from re-examination in the subjects included in the Division.

Classification of successful candidates.

5. Successful candidates who pass the whole examination at one appearance shall be ranked in the order of proficiency as determined by the total marks obtained by each, and shall be arranged in three classes.

The *first*, consisting of those who obtain not less than sixty per cent. of the total marks.

The *second*, of those who obtain less than sixty per cent. but not less than fifty per cent. of the total marks.

The *third*, of those who obtain less than fifty per cent. but not less than forty per cent. of the total marks.

All candidates who pass the examination in compartments, Division by Division, shall be placed in the third class in a separate list.

B.L. Degree Examination.

F. L. Certificate.

6. Each candidate must forward with his application a certificate of having passed the First Examination in Law.

Subjects for Examination.

7. Candidates for the B.L. Degree Examination shall be examined in the following subjects:—

(i) The Law of Property, with special reference to the Transfer of Property Act, the Indian Trusts Act and the Indian Easements Act. (Two papers).

Questions shall ordinarily be set only on such parts of the English Law of Property as deal with the general principles of the Law of Property and are calculated to enable students to appreciate the Indian Law of Property.

(ii) Hindu Law and Muhammadan Law. (One paper).

(iii) The Principles of Land Tenure in the Madras Presidency. (One paper).

(iv) The Law of Evidence. (One paper).

(v) Criminal Law (Indian Penal Code). (One paper).

Each paper shall be of three hours' duration, except the papers on the Principles of Land Tenures and the Law of Evidence which shall be of two hours' duration each.

Marks qualifying for a pass.

8. (a) A candidate shall be declared to have passed the Examination, if he obtains not less than forty per cent. of the total marks and not less than one-third of the marks in each Division of the Examination. The Divisions shall be as follows:—

(i) The Law of Property and Madras Land Tenures.

(ii) Hindu Law and Muhammadan Law.

(iii) Criminal Law and the Law of Evidence.

All other candidates shall be deemed to have failed in the Examination.

(b) A candidate who fails in the whole Examination but obtains not less than fifty per cent. in any Division shall be exempted from re-examination in the subjects included in the Division.

9. Successful candidates who pass the examination in one appearance shall be ranked in the order of proficiency as determined by the total marks obtained by each, and shall be arranged in three classes:—

Classification of successful candidates.

The *first,* consisting of those who obtain not less than sixty per cent. of the total marks.

The *second,* of those who obtain less than sixty per cent. but not less than fifty per cent. of the total marks.

The *third,* of those who obtain less than fifty per cent. but not less than forty per cent. of the total marks.

All candidates who pass the Examination in compartments, Division by Division, shall be placed in the Third Class in a separate list.

CHAPTER XLVIII.

DEGREE OF MASTER OF LAWS.

1. No candidate shall be eligible for the degree of Master of Laws unless he has taken the degree of Bachelor of Laws of this University *or* a degree in some other University accepted by the Syndicate as equivalent thereto and has also passed the M.L. Degree Examination.

Eligibility for M.L. Degree

No candidate shall be admitted to the examination for the degree of Master of Laws unless he has passed not less than two years previously the examination for the degree of Bachelor of Laws in this University or a degree examination in some other University accepted by the Syndicate as equivalent thereto.

Qualification of candidates for Examination

Each candidate must forward before the date of the commencement of the examination satisfactory evidence of having taken the degree of Bachelor of Laws of this University, or a degree of some other University accepted by the Syndicate as equivalent thereto.

Branches of Study

2. Candidates for the degree of Master of Laws shall be examined in one of the following branches:—

BRANCH I.—Jurisprudence.

1. Jurisprudence General.
2. Comparative Jurisprudence, (with specific reference to Roman, Hindu and Muhammadan Systems).
3. History of the common Law of England.
4. History of Equity and Equity Jurisprudence.
5. Legislation (Theory, Method and Interpretation).
6. One of the following:—
   (a) Roman Law.
   (b) Continental Civil Law.
   (c) Ancient Law and Custom including Customary Law in India, (including Burma).
7. Essay.

BRANCH II.—Constitutional Law.

1. Constitutional Law of England and its History.
2. Indian Constitutional Law and its History.
3. Constitutional Law of the British Dominions and other countries, e.g., U.S.A., Japan, Germany.
4. Public Authorities, Corporations and Officers.
5. Law of Elections.
6. British India and the Indian States (with special reference to Treaties).
7. Essay.

BRANCH III.—International Law.

1. and 2. Public International Law to be studied with documents—Two papers.

3. Private International Law—General.

4. Private International Law—Domicile.

5. Prize Law.

6. One of the following as a special subject:—

   (a) Outlines of the History of Diplomacy and Diplomatic Practice.

   (b) League of Nations (Constitution and powers especially International Court of Justice).

   (c) The Monroe Doctrine and Interstate Law in the United States and International Law in the Far East.

   (d) British India and the Indian States, (including Treaties).

7. Essay.

BRANCH IV.—Torts and Crimes.

1. Theory of Crimes and the Punishments including Criminology.

2. Laws of Crimes and Criminal Procedure in India.

3. History of Criminal Law and Procedure in England.

4. Comparative Criminal Jurisprudence including Procedure.

5. Law of Torts and its History.

6. Negligence and Nuisance and Libel and Slander.

7. Essay.

BRANCH V.—Law of Obligations.
(Contracts and Torts).

1. Law of Contracts and its History.
2. Law of Torts and its History.
3. Remedies of Specific Performance, Injunctions and Damages, and their History.

4, 5, 6. Any three of the following:—
(a) Negotiable Instruments.
(b) Sale of Goods and Bailments and Carriers.
(c) Agency and Partnership.
(d) Domestic relations, Husband and Wife, Parent and Child, Master and Servant.
(e) Negligence, Nuisance, Libel and Slander.

7. Essay.

BRANCH VI.—Mercantile Law.

1. Company Law.
2. Any one of the following:—
   (a) Bankruptcy.
   (b) Patents, Copyright and Trade Marks.
   (c) Insurance—Life, Fire and Marine.
3. Banking including Negotiable Instruments.
4. Sale of Goods.
5. Agency and Partnership.
6. Maritime Law (Merchant Shipping, Bills of Lading, Charter-parties and Collisions).
7. Essay.

BRANCH VII.—Personal Laws.

1. Hindu Law—Adoption, Marriage and Guardianship.
2. Hindu Law—Joint Family and Succession.
3. Hindu Law Texts and their History and rules of Interpretation.
4. Law of Hindu and Muhammadan Endowments.
5. Muhammadan Law and its History.

6. Statute Law relating to Guardianship, Marriage and Succession in India.
7. Essay.

BRANCH VIII.—Transfer of Property.

1. Law of Transfer of Property— In England and in India.
2. Vendors and Purchasers and Mortgages.
3. Wills, Succession and Bankruptcy.
4. Compulsory and Judicial Sales.
5. Law of Private Trusts.
6. Public Trusts and Charities.
7. Essay.

BRANCH IX.—Real and Personal Property.

1. Real Property.
2. Personal Property.
3. Highways—including Foreshore and Seashore.
4. Easements and Waters.
5. Land Tenures in India—Customary.
6. Land Tenures in India—Statute-Law.
7. Essay.

Marks qualifying for a pass.

3. Candidates who obtain not less than one-third of the marks assigned to each sub-division, and not less than forty per cent on the whole, shall be declared to have passed the examination. All other candidates shall be deemed to have failed in the examination.

Classification of successful candidates.

Successful candidates shall be ranked in the order of proficiency as determined by the total marks obtained by each and shall be arranged in three classes:—

The first, consisting of those who obtain not less than sixty per cent of the total marks.

The second, of those who obtain not less than fifty per cent of the total marks.

The third, of those who obtain not less than forty per cent of the total marks.

The examiners shall be at liberty to bracket candidates when the difference between them amounts only to a very small number of marks.

CHAPTER XLIX.

DEGREE OF DOCTOR OF LAWS.

1. Any Master of Laws of the University of Madras may offer himself as a candidate for the degree of Doctor of Laws; provided one year has elapsed from the time when he passed the examination for the degree of Master.

Application.

2. Every candidate shall state in his application the special subject within the purview of the regulations for the degree of Master of Laws, upon a knowledge of which he rests his qualification for the Doctorate, and shall, with the application, transmit three copies, printed or type-written, of a thesis that he has composed upon some branch of law, or of the history or philosophy of law. The candidate shall indicate generally in a preface to his thesis and especially in notes, the sources from which his information is taken, the extent to which he has availed himself of the work of others and the portions of thesis which he claims as original; he shall further state whether his research has been conducted independently, under advice, or in co-operation with others, and in what respects his investigations appear to him to advance the study of law.

Thesis.

Original contributions to science or study of law

3. Every candidate may also forward with his application three printed copies of any original contribution or contributions to the advancement of the science or study of law whether published conjointly or independently, upon which he relies in support of his candidature.

Testimonials required

4. No application shall be entertained unless two Members of the Faculty of Law or two Doctors of Laws shall have testified, to the satisfaction of the Syndicate that since graduating as Bachelor of Laws, the candidate has practised his profession with repute for five years and that, in habits and character, he is a fit and proper person for the degree of Doctor.

The application and thesis must be forwarded so as to be received by the Registrar between 1st November and 1st December of any year.

Examination of Thesis

5. The thesis mentioned in Regulation 2 of this Chapter and the original contributions, if any, mentioned in Regulation 3 of this Chapter shall be referred by the Syndicate to a Board consisting of the President of the Faculty of Law and two other persons.

Oral examination

6. If the thesis is approved by the Board, he shall not be required to submit to any further written examination; but he may be required by the Board at their discretion, to appear before them to be tested orally with reference to the thesis, and the special subject selected by him. The Board shall report to the Syndicate the result of the examination of the thesis, and of the oral examination, if any; and if the Syndicate, upon the report, considers the candidate worthy of the degree of Doctor of Laws, they shall cause his name to be published, with the subject of his thesis, and the titles of his published contributions (if any) to the advancement of the science or study of law.

Report

Notification of success

Publication of Thesis

7. Every candidate shall be at liberty to publish his thesis, and the thesis of every successful candidate shall be published by the University with the inscription 'Thesis approved for the degree of Doctor of Laws in the University of Madras.'

CHAPTER L (Regulations).

*DEGREES OF MEDICINE AND SURGERY.

Degree of Bachelor of Medicine and Surgery.

I. Candidates for the degree of Bachelor of Medicine and Surgery shall be required.—

Age limit for admission to College.

(i) to have completed the age of seventeen years on or before the date of admission to a College of Medicine for registration as medical students ;

Preliminary qualification.

(ii) to have passed the Intermediate Examination in Arts and Science of this University, taking Physics and Chemistry as two of the three optional subjects under Part III of the Intermediate Examination, or an examination accepted by the Syndicate as equivalent thereto ;

Pre-Registration Examination

(iii) to have subsequently studied for a period of six months in a college affiliated to or recognised by the University, the subjects of Inorganic Chemistry, Physics and Biology, and passed the Pre-Registration Examination of this University or an Examination recognised by the General Medical Council of Great Britain and Ireland and accepted by the Syndicate as equivalent thereto;

5 years' study at College

(iv) to have, subsequent to passing the Pre-Registration Examination, been engaged for not less than five years in professional study in a College of Medicine affiliated to or recognised by the University, provided that not less than two academic years or six terms of medical study, preceding the Final M. B. & B. S. Examination, be spent in attendance at the University of Madras on courses of instruction in the subjects of the curriculum ;

Academic Terms

(v) The academic year shall consist of three terms spring, autumn and winter. The spring term will extend from 1st January to 31st March, the autumn term from 1st July to 30th September, and the winter term from 1st October to 31st December.

* For Regulations in force prior to 1928, *vide* Appendix XIX of Vol. I, Part II of the University Calendar for 1931-32.

Certificate of further study

(vi) In the case* of the examinations other than the Final, candidates who fail at the examination or having applied for admission do not appear for the examination, or having obtained the prescribed certificate do not apply for admission to the examination although qualified to do so, shall be required to produce a certificate of further study for at least one term before appearing for the next succeeding examination.

*No candidate who failed in any one of the clinical subjects of the Final M.B. & B.S. Degree Examinations shall be permitted to appear again for the examination unless he puts in a further course of hospital practice in the subject for at least one term.

Dates of Examinations

(vii) The Examination shall be held twice a year in the months of April and December and will commence on the following days :—

Pre-Registration Examination—1st Monday in April and 10th December.

First and Second M.B. & B.S. Examinations—1st Monday in April and 1st December.

Final M.B. & B.S. Degree Examination—2nd Monday in April and 1st December.

Pre-Registration Examination.

Courses of study and Subjects

2. A candidate for the examination shall undergo a course of study extending over a period of six months, and shall be examined in

(a) Inorganic Chemistry (according to a syllabus)
(b) Physics (Do.)
and (c) Biology (Do.)

The examination in each subject shall be written, practical and oral.

Conditions of admission.

3. No candidate shall be admitted to the examination unless he has produced satisfactory evidence of having complied with the provisions contained in clause (ii) of Regulation 1 of this Chapter, and has produced the prescribed certificates.

*Will take effect from the Examination of December 1934, *et seq.*

Candidates for B.A., B.Sc., etc., passing in Science Group eligible for exemption

4. Candidates who have passed Part II (Old Regulations) or Part III (New Regulations) of the B.A. Degree or Part II of the B.Sc. (Pass) or B.Sc. (Hons.) or B.A. (Hons.) (Old Regulations) Degree Examination of the Madras University with Physics or Chemistry or Botany and Zoology (together) as optional subjects or of any other Indian University (where practical courses and examinations are held) accepted by the Syndicate as equivalent thereto, shall not, however, be required to produce the prescribed certificates for, or to pass in, any of the subjects in which they have passed at the Degree Examination. Such candidates shall, however, be required to pay the prescribed fee for the whole Examination.

Marks qualifying for a pass

5. A candidate for the examination shall be declared to have passed the examination if he obtains not less than one-half of the marks in the written, and not less than one-half of the marks in the practical and oral taken together in each of the subjects, Inorganic Chemistry, Physics and Biology. All other candidates shall be deemed to have failed in the examination.

Exemption from re-examination in the subject already passed

6. Candidates for the examination who fail, but obtain passing marks in any subject shall be exempted from re-examination in that subject.

Eligibility for admission to the Pre-Registration Examination

7. A candidate who after qualifying for admission to the Examination applies therefor and fails four times shall not be permitted to take the Pre-Registration Examination again. If a candidate, whose name has been registered for the Examination, absents himself therefrom, he shall be deemed to have failed in the Examination.

Classification of successful candidates

8. Candidates who pass the whole examination on the first occasion of appearing therefor shall be ranked in the order of proficiency as determined by the total number of marks obtained by each and shall be arranged in two classes; the first consisting of those who have obtained not less than seventy-five per cent of the aggregate number of marks, the second consisting of all the others.

Candidates who pass in the first class and who obtain not less than seventy-five per cent of the marks in any subject shall be declared to have passed with distinction in that subject.

Candidates who pass the whole examination at a subsequent appearance shall be ranked only in the second class.

All candidates who pass the examination subject by subject shall be ranked in the second class separately.

First M. B. & B. S. Examination.

Course of study and Examination

9. A candidate for the Examination shall undergo a course of study extending over a period of one academic year for Part I, Organic Chemistry and two academic years for Part II, Anatomy including Elements of Human Embryology, and Physiology including Bio-Chemistry after passing the Pre-Registration Examination and shall be examined in

Part I—(a) Organic Chemistry (according to a syllabus).

Part II—(b) Anatomy, including Elements of Human Embryology.

and (c) Physiology including Bio-Chemistry (according to a syllabus)

The examination in each subject shall be written, practical and oral.

10. Candidates may present themselves for the whole Examination at one time, or may take the examination in two Parts.

Qualification for admission

11. No candidate shall be admitted to Part I, Part II or whole of the examination unless he has passed the Pre-Registration Examination of this University, or an examination accepted by the Syndicate as equivalent thereto and has produced the prescribed certificates.

Marks qualifying for a pass

12. A candidate for the examination shall be declared to have passed in Part I of the examination if he obtains in Organic Chemistry not less than one-half of the marks in the written, and not less than one-half of the marks in the practical and oral taken together, and to have passed Part II of the examination if he obtains not less than one-half of the marks in the written part of each of the subjects, Anatomy (including Elements of Human Embryology), and Physiology, (including Bio-Chemistry) respectively, and not less than one-half of the marks in the practical and oral taken together in each subject. All other candidates shall be deemed to have failed in the examination.

Exemption from re-examination in the subject already passed

13. Candidates for the Examination who fail but obtain passing marks in any subject shall be exempted from re-examination in that subject.

Classification of successful candidates.

14. Candidates who pass Parts I and II of the examination on the first occasion of appearing therefor shall be ranked in the order of proficiency as determined by the total number of marks obtained by each in both Parts and shall be arranged in two classes ; the first consisting of those who have obtained not less than seventy-five per cent of the aggregate number of marks ; the second consisting of all the others.

Candidates who pass in the first class and who obtain not less than seventy-five per cent of the marks in any subject shall be declared to have passed with distinction in that subject.

Candidates who pass the whole examination at a subsequent appearance shall be ranked only in the second class.

All candidates who pass the examination subject by subject shall be ranked in the second class separately.

Second M. B. & B. S. Examination.

Duration of Course of study and subjects

15. A candidate for the examination shall undergo a course of study extending over a period of one academic year for Pharmacology, Hygiene and Ophthalmology and two academic years for General Pathology with Bacteriology

taken concurrently and subsequent to passing the First M.B. & B.S. Examination and shall be examined in

Part I—

(a) Pharmacology,

Part II—

(b) Hygiene,

(c) General Pathology with Bacteriology,

and (d) Ophthalmology.

The course in Ophthalmology shall include attendance at an Ophthalmic Hospital or Ophthalmic Wards of a General Hospital on three days in the week for a period of three months.

The examination shall be written, practical and oral in the case of Pharmacology, Hygiene and General Pathology with Bacteriology and written and oral in the case of Ophthalmology.

16. Candidates may present themselves for the whole examination at one time or may take the examination in two Parts.

Qualification for admission

17. No candidate shall be admitted to Part I, Part II or whole of the Examination unless he has passed the First M.B. & B.S. Examination of this University or an Examination accepted by the Syndicate as equivalent thereto, and has produced the prescribed certificates.

Marks qualifying for a pass

18. A candidate for the Examination shall be declared to have passed in Part I of the examination if he obtains in Pharmacology not less than one-half of the marks in the written and not less than one-half of the marks in the Practical and Oral taken together and to have passed Part II of the Examination if he obtains not less than one-half of the marks in the written part of each of the subjects, Hygiene, General Pathology with Bacteriology and Ophthalmology, and not less than one-half of the marks in the practical and oral taken together in Hygiene and General Pathology with Bacteriology and not less than one-half of the marks in Oral Ophthalmology. All the other candidates shall be deemed to have failed in the examination.

Exemption from re-examination in the subject already passed.

19. Candidates for the examination who fail but obtain passing marks in a subject shall be exempted from re-examination in that subject.

Classification of successful Candidates.

20. Candidates who pass Parts I and II of the examination on the first occasion of appearing therefor shall be ranked in the order of proficiency as determined by the total number of marks obtained by each in both Parts and shall be arranged in two classes, the first consisting of those who have obtained not less than seventy-five per cent of the aggregate number of marks, the second consisting of all others.

Candidates who pass in the first class and who obtain not less than seventy-five per cent of the marks in any subject shall be declared to have passed with distinction in that subject.

Candidates who pass the whole examination at a subsequent appearance shall be ranked only in the second class.

All candidates who pass subject by subject shall be ranked in the second class separately.

Final M. B. & B. S. Examination.

Duration of course of study and Subjects.

21. A candidate for the examination shall undergo a course of study extending over a period of one academic year for Forensic Medicine and three academic years for Medicine, Surgery and Obstetrics and Gynaecology taken concurrently and subsequent to passing the First M.B. & B.S. Examination and shall be examined in

Part I—

(a) Forensic Medicine,

Part II—

(b) Medicine,

(c) Surgery,

(d) Obstetrics and Gynaecology.

Medicine.

Medicine.

22. The course in medicine shall include:

(a) An appointment for nine months as Clinical Clerk in the medical wards of a recognised hospital of which at least two months shall be in the final year ; and

(b) An appointment for three months as Clinical Clerk in the medical out-patients department of a recognised hospital.

Attendance at recognised courses of instruction.

23. Every candidate for the M. B. & B.S. degree shall also attend recognised courses of instruction in the following subjects :—

(i) A course of systematic instruction in the principles and practice of medicine.

(ii) Instruction in applied Anatomy and Physiology and in Clinical Pathology.

(iii) Infectious Diseases—with attendance as Clinical Clerk at a recognised hospital on two days in the week for a period of three months ;

(iv) Mental Diseases—with attendance as Clinical Clerk at a recognised Mental Hospital on one day in the week for a period of three months;

(v) Tuberculosis—with attendance as Clinical Clerk at a Tuberculosis Hospital on one day in the week for a period of three months ;

(vi) Medical Therapeutics.

(vii) Dermatology—with attendance at the special departments on two days in the week for a period of three months;

(viii) Instruction in Vaccination by a qualified Health Officer.

(ix) Diseases of Children,

24. The examination in Medicine may include question on the above-mentioned subjects, but separate examinations in those subjects will not be held.

Surgery.

Surgery.

25. The course in Surgery shall include—

(a) An appointment for nine months as Surgical Dresser in the surgical wards of a recognised hospital of which at least two months shall be in the final year ; and

(b) An appointment for three months as Surgical Dresser in the out-patient department of a recognised hospital.

Attendance at recognised courses of instruction.

26. Every candidate for the M.B. & B.S. Degree shall also attend recognised courses of instruction in the following subjects :—

(i) A course of systematic instruction in the principles and practice of surgery ;

(ii) Instruction in applied Anatomy and Physiology and Clinical Pathology ;

(iii) Oto-Rhino-Laryngology—with attendance as a clinical clerk at a recognised clinic on three days in the week for a period of three months ;

(iv) Orthopaedics—two days in the week for three months ;

(v) Administration of Anæsthetics ;

(vi) Operative Surgery ;

(vii) Radiology with attendance at an X-ray institute on three days in the week for one month ;

(viii) Venereal Diseases—with attendance at a Venereal clinic for two days in the week for a period of three months.

27. The Examination in Surgery may include questions on the above-mentioned subjects, but separate examinations in these subjects will not be held.

Obstetrics & Gynaecology.

Obstetrics and Gynaecology. 28. The course in Obstetrics & Gynæcology shall include :—

(a) An appointment as Clinical Clerk at an ante-natal clinic and maternity wards of a lying-in-hospital for a period of three months, and the personal conduct of twenty cases of labour of which five at least shall be under supervision ; and

(b) An appointment as Clinical Clerk in the Gynæcological wards and out-patient department of a recognised hospital for a period of three months.

Attendance at recognised courses of instruction. 29. Every candidate for the M.B. & B.S. Degree shall also attend recognised courses of instruction in the following subjects :—

(a) Instruction during a period of at least two terms comprising courses of systematic instruction in the principles and practice of Obstetrics & Gynæcology.

(b) Lectures or demonstrations in clinical Obstetrics & Gynæcology, and attendance on in-patient and out-patient Gynæcological practice.

30. Every candidate for the M.B. & B.S. Degree before commencing the study of practical midwifery shall have held the appointments of Clinical Medical Clerk and Surgical Dresser and shall have attended a course of lectures on Medicine, Surgery and Obstetrics & Gynæcology.

31. A certificate that the candidate has conducted the above mentioned twenty cases of labour should be given by a member of the staff of the lying-in-hospital or of a maternity charity hospital as may be recognised by the University of Madras from time to time after consulting the Board of Studies in Medicine.

32. Candidates may present themselves for the whole examination at one time or may take the examination in two Parts.

33. The examination in each subject shall be written and oral in the case of Forensic Medicine, written, clinical and oral in the case of Medicine; written, clinical, practical and oral in the case of Surgery and Obstetrics and Gynæcology.

Eligibility for admission. 34. (a) No candidate shall be admitted to Part I of the examination unless—

(1) he has previously passed the Second M.B. & B.S. Examination or an examination accepted by the Syndicate as equivalent thereto; and

(2) he has produced the prescribed certificates; and

(b) no candidate shall be admitted to Part II of the examination unless—

(1) he has passed the first M.B. & B.S. Examination or an examination accepted by the Syndicate as equivalent thereto not less than 3 academic years previously;

(2) he has passed the Second M.B. & B.S. examination or an examination accepted by the Syndicate as equivalent thereto not less than one academic term previously;

(3) he was engaged in medical studies and has earned the certificates of attendance at a College recognized by or affiliated to the Madras University at least for the fourth year and fifth year of the course of studies prescribed for the M.B. & B.S. Degree Examination; and

(4) he has produced the prescribed certificates.

Marks qualifying for a pass. 35. A candidate for the examination shall be declared to have passed the examination if he obtains not less than one-half of the marks in the written part of each of the subjects, Forensic Medicine, Medicine, Surgery and Obstetrics & Gynæcology, not less than one-half of the marks in Oral Forensic Medicine, and not less than one-half of the marks in Clinical and Oral Medicine taken together, not less than one-half of the marks in (1) Clinical Surgery, (2) Operative and Oral Surgery taken together, and not less

than one half of the marks in Clinical, Practical and Oral Obstetrics & Gynæcology taken together. All other candidates shall be deemed to have failed in the examination.

Exemption for failed candidates.

36. Candidates for the examination who fail but obtain passing marks in any subject, shall be exempted from re-examination in that subject.

Classification of successful candidates.

37. Candidates who pass Parts I and II of the examination on the first occasion of appearing therefor shall be ranked in the order of proficiency as determined by the total number of marks obtained by each, in both Parts and shall be arranged in two classes; the first consisting of those who have obtained not less than seventy-five per cent of the aggregate number of marks, the second consisting of all the others.

Candidates who pass in the first class and who obtain not less than seventy-five per cent. of the marks in any subject shall be deemed to have passed with distinction in that subject.

Candidates who pass Part I or II of the Examination at a subsequent appearance shall be ranked only in the second class.

All candidates who pass the examination subject by subject shall be ranked in the second class separately.

38. A candidate who holds the Diploma of L.M.P. or any other qualification accepted by the Syndicate as equivalent thereto, will be admitted to the Degree of M.B., B.S., provided—

Conditions of admission to Holders of Diploma of L. M. P. to Final M. B. & B. S. Examination.

(*a*) he has passed the Diploma Examination at least five years before the date of application for the Final M. B. & B. S. Degree Examination ;

(*b*) he has passed the Intermediate Examination in Arts and Science of this University, or an examination accepted by the Syndicate as equivalent thereto, or an examination accepted by the

General Medical Council for entrance to the Medical Course ;

provided that for this purpose, the Oxford or Cambridge Senior Local or School Certificate Examination shall be recognized, if the candidate has passed with credit in any three subjects at not more than two sittings.

(*c*) he has attended a course of study for not less than one academic year in a College of Medicine recognised by or affiliated to this University before appearing for the Second M. B. & B. S. Examination; and not less than one academic year subsequent to passing the Second M. B. & B. S. Examination and before appearing for the Final M. B. & B. S. Degree Examination, during which year the candidate shall be required to produce evidence of having attended clinical course in a Medical College recognised by or affiliated to this University; and

(*d*) he passes Part II of the First, and the whole of the Second and Final M. B. & B. S. Examinations of this University.

Transitory Regulations.

The old regulations so far as they are applicable in regard to the L. M. & S. Degree, shall continue to be applicable to those candidates who are entitled under the old regulations for these privileges.

The term "old regulations" means either the regulations which came into force on the 1st July 1926 or the regulations in force prior thereto.

Candidates who had completed their course in Pharmacology before June 1929, but did not appear for the examination in June 1929, shall be permitted to appear for the Examination in December 1929 or on any subsequent occasion without further certificates of attendance at College.

Candidates for the M.B. & B.S. Degree who have qualified for the L. M. & S. Degree after a five years' course shall be exempted from re-examination in the subject in which they have obtained 50 per cent. of the marks and from the production of additional attendance certificate in the other subjects.

DEGREE OF DOCTOR OF MEDICINE AND MASTER OF SURGERY

(i) *Doctor of Medicine.*

39. (*a*) No candidate shall be admitted to the examination for the Doctor of Medicine unless he produces a certificate showing that

Admission

(1) he, having passed the M.B. & B.S. or M.B. & C.M. Degree Examination of this University has been engaged for three years continuously in the practice of the Medical profession,

or

(2) he, after qualifying for his M.B. & B.S. or M.B. & C.M. Degree, has passed two years in hospital practice,

or

(3) he, having passed his M.B. & B.S. or M.B. & C.M. Degree Examination in the first class, has passed one year in hospital practice,

(*b*) Each candidate must also produce a testimonial, signed by at least two Doctors of Medicine, or two Masters of Surgery, or two members of the Senate of the University, certifying that he is in habits and character a fit and proper person to receive the degree of Doctor of Medicine.

The L.M. & S. Degree Examination will be held for the last time in 1934.

Branches of Examination

40. Candidates shall be examined in one of the following branches:—

Branch I—Medicine.

(*a*) Medicine—one paper.

(*b*) Medicine, including Mental Diseases and Pathology—two papers.

(*c*) A Clinical and Oral Examination, including an examination in Pathological specimens.

Branch II—Midwifery, including Diseases of Women and Children.

(*a*) Medicine—one paper.

(*b*) Midwifery and Diseases of Women and Children, including the Pathology of these subjects—two papers.

(*c*) A Clinical and Oral Examination in Midwifery and Diseases of Women and Children including an examination in Pathological specimens.

Branch III—Pathology.

(*a*) Medicine—one paper.

(b) Pathology—two papers.

(*c*) A Practical and Oral Examination in Pathology.

Branch IV—Tropical Medicine.

(*a*) Medicine—one paper.

(*b*) Tropical Medicine, including the Pathology of Tropical Diseases—two papers.

(*c*) A Clinical and Oral Examination including the examination of Pathological specimens.

41. A candidate who has already passed the examination in one branch may, before he takes the degree, appear on a subsequent occasion in another branch, but no candidate may appear for the examination in two branches in the same year.

Candidates may qualify in two Branches

42. Candidates shall be approved by the Examiners and shall be declared to have passed if they have shown a competent knowledge in all the subjects of the examination. All other candidates shall be deemed to have failed in the examination.

Approved candidates

(ii) *Master of Surgery.*

43. (*a*) No candidate shall be admitted to the examination for the Master of Surgery unless he produces a certificate showing that,

Admission

(1) he, having passed the M.B. & B.S., or M.B. & C.M. Degree Examination of this University, has been engaged for three years continuously in the practice of the Medical profession;

or

(2) he, after qualifying for his M.B. & B.S. or M.B. & C.M. Degree, has passed two years in hospital practice;

or

(3) he, having passed his M.B. & B.S., or M.B. & C.M. Degree Examination in the first class, has passed one year in hospital practice.

(*b*) Each candidate must also produce a testimonial, signed by at least two Doctors of Medicine, or two Masters of Surgery, or two members of the Senate of the University, certifying that he is in habits and character a fit and proper person to receive the degree of Master of Surgery.

Subjects for examination

44. Candidates shall be examined in—

(1) Surgery—two papers.

(2) Surgical Anatomy and Pathology—one paper.

(3) One of the following special subjects—one paper:—

(i) Ophthalmology.

(ii) Venereal and Genito-Urinary Surgery.

(iii) Gynæcological Surgery.

(iv) Aural and Laryngeal Surgery.

(v) Dental Surgery.

(4) Operative Surgery and the use of instruments.

(5) A Clinical and Oral Examination including the examination of Pathological specimens.

Approved candidates

45. Candidates shall be approved by the Examiners and shall be declared to have passed if they have shown a competent knowledge in all the subjects of the examination. All other candidates shall be deemed to have failed in the examination.

Diploma in Midwifery (D. G. O.)

Condition of Admission

46. Candidates for the Diploma in Gynæcology and Obstetrics (D.G.O.) shall be required to have passed the M.B.,B.S. or L.M.S. Examination of any of the Indian Universities or an Examination accepted by the Syndicate as equivalent thereto.

Course of study

47. The course of study for the Diploma shall extend over a period of one year subsequent to obtaining the Medical qualifications referred to above.

48. Every candidate shall be required:—

(*a*) to have served as a House Surgeon in a recognised lying-in-Hospital for a period of six months;

(*b*) to have personally conducted at least six Obstetric Operations under the supervision of the Medical Staff of a recognised institution during this period;

and (*c*) to have subsequently given regular attendance for a period of six months at the Government Hospital for

Women and Children, Madras, and to have attended such lectures and clinical demonstrations as may be prescribed.

There shall be given at least 20 lectures and 20 Clinical demonstrations on Midwifery and Gynæcology during this period.

Instruction is given during the course in:—

Practice of Midwifery,

Practice of Gynæcology,

Anatomy of the Female Pelvis,

Elementary Embryology,

Pathology of the Female organs, and

Anti-Natal Pathology.

The examination for the Diploma is in the same subjects.

Subjects for Examination

49. At the end of the course candidates shall be examined in the following subjects:—

1. Midwifery—One paper.
2. Gynæcology and Diseases of a New Born Child—One paper.
3. A Clinical and Oral Examination in Midwifery and Gynæcology.

The examination will be very largely practical and is intended to test the student's knowledge of the practical side of Obstetrics and Gynæcology.

Marks qualifying for a pass

50. Candidates obtaining not less than one half of the marks in each of the papers and one half in the clinical and *viva voce* shall be declared to have passed in the Examination. All other candidates shall be deemed to have failed.

The following institutions shall be recognised for the House Surgeoncies:—

1. Government Hospital for Women and Children, Madras.

2. Rajah Sir Ramaswami Mudaliar's Lying-in-Hospital, Royapuram.

3. Government Victoria Caste and Gosha Hospital, Triplicane, Madras.

The examination shall be held twice a year in the months of April and October commencing from the 2nd Monday in each month.

Fees The fee payable for the examination shall be Rs. 50. A candidate who fails in the examination will be admitted at the succeeding examination provided he puts in an additional courses of three months.

CHAPTER LI.

DEGREE OF BACHELOR OF SANITARY SCIENCE.

Condition of Admission 1. Candidates for this degree must be graduates in Medicine and Surgery of the University of Madras or hold corresponding degrees of other Universities or Licensing Bodies recognised for the purpose by the University. The degree must be registered with the Madras Medical Council before a candidate is admitted to the examination.

Course of study 2. The course of study shall extend over a period of not less than twelve calendar months, and shall include instruction in the subjects as hereunder:—

A.—Part I.

(i) Bacteriology (including 180 hours of practical work) extending over a period of ... ...220 hours

(ii) Entomology and Parasitology (including 70 hours of practical work in the laboratory and in the field, and Malaria surveys) extending over a period of ... ... 90 hours

(iii) Chemistry and Physics in relation to Public Health (including 180 hours of practical work) extending over a period of ... ...180 hours

(iv) Climatology and Meteorology extending over a period of ... 10 hours

B.—Part II.

(i) The Principles and Practice of Public Health (including 10 hours' instruction in Maternity and Child Welfare work and organisation) extending over a period of ... 50 hours

(ii) Epidemiology and Vital Statistics extending over a period of ... 20 hours

(iii) Sanitary Law and Administration extending over a period of .. 20 hours

(iv) Sanitary Construction and Planning (including 10 hours' instruction in Town Planning and Civic Surveys) extending over a period of ... 30 hours

(v) The Theory and Practice of Vaccination (including practical and outdoor work, detection and verification) extending over a period of ... 30 hours

(vi) Instruction in Infectious Diseases and attendance upon the clinical practice of an Infectious Diseases Hospital extending over a period of three months, and comprising 30 attendances of two hours each on three days a week, involving a total period of ... ... 60 hours

Note.—Provision for such instruction is made in the Infectious Diseases Hospitals in Madras.

(vii) Instruction in Public Health Administration (including the practical routine and special work of a Medical Officer of Health) extending over a period of six months, and comprising 60 attendances of three hours each under a Medical Officer of Health, involving a total period of ... ...180 hours

Note—This course shall comprise instruction in Maternity and Child Welfare work, the Medical Inspection of School Children, Industrial Hygiene, Inspection and control of foods and drugs.

(viii) Instruction in Tuberculosis, clinical and administrative, extending over a period of ... ... 30 hours

(ix) Instruction in Venereal Diseases, clinical and administrative, extending over a period of ... ... 10 hours

Note.—Provision is made in the Medical College, Madras, in the City of Madras, and in the Public Health Department for instruction in the subjects set out above.

3. The course of study shall commence in July, and shall extend over four terms as follows:—

Academic Terms The Autumn term from July to the end of September; the Winter term from October to December; the Spring term from January to March; the Summer or Vacation term from April to June. The courses of study shall be taken in the Medical College, Madras, or in the appropriate institutions in Madras recognised for the purpose by the University.

4. The examination for the degree shall be conducted in two Parts and shall be held twice a year: Part I beginning on the second Monday in January or the second Monday in April respectively, and Part II beginning on the third Monday in July or the first day in December respectively.

Division of Examination.

5. To obtain a pass in each part the candidates must pass in all the subjects specified in that Part at the same sitting.

Conditions of eligibility for appearing at the Examination.

6. (a) No candidate shall be admitted to the examination unless he has taken the degree in Medicine and Surgery in this University or a degree in some other University or obtained a Diploma of a Licensing Body recognised by the University as equivalent thereto and has been registered by the Madras Medical Council.

(b) A candidate for the examination shall further be required to produce with his application satisfactory evidence of his having taken a Medical Degree or obtained the Diploma specified in the preceding regulation and of his having been registered by the Madras Medical Council.

(c) A candidate shall further produce the required attendance and progress certificates for each Part.

(d) No candidate shall be admitted to Part II of the Examination unless he has passed previously Part I of the Examination, and two years had elapsed after qualifying for the Medical Degree or obtaining the Diploma.

Term certificate

7. Candidates shall not be deemed to have attended a course of instruction for the purposes of this degree who do not present certificates showing not only that they have regularly attended the course, but also that they have duly performed the work thereof to the satisfaction of the Professor or Lecturer in the subject concerned.

8. Candidates shall be examined in the following subjects in Part I of the examination:—

Subjects for Examination

(i) Chemistry and Physics in relation to Public Health, Climatology and Meteorology.

(ii) Bacteriology.

(iii) Medical Entomology and Parasitology.

The examination in each subject shall include a written paper, practical examination and a *viva voce*.

Marks qualifying for a pass in Part I

9. Candidates who obtain not less than one half of the aggregate marks in each subject in Part I of the examination shall be declared to have passed.

10. Candidates shall be examined in the following subjects in Part II of the examination:—

Subjects for Examination

(i) Hygiene and Public Health including Sanitary Engineering.

(ii) Epidemiology and Infectious Diseases.

(iii) Sanitary Law and Vital Statistics.

(iv) Public Health Administration.

The examination in subjects (i) and (iii) shall include a written paper and a *viva voce;* that in (ii) shall include a written paper, a practical examination and a *viva voce,* and that in (iv) shall consist of a practical examination only.

Marks qualifying for a pass in Part II.

11. Candidates who obtain not less than one half of the aggregate marks in each subject in Part II of the examination shall be declared to have passed.

Marks qualifying for a pass for the whole Examination, and classification of successful candidates

12. Candidates who pass both Parts of the examination at the first sitting and who obtain not less than two-thirds of the aggregate marks of both the Parts together shall be declared to have passed in the First Class; and candidates obtaining not less than seventy-five per cent. of the marks in any subject shall be declared to have passed with distinction in that subject. Candidates obtaining less than two-thirds of the aggregate marks and not less than 50 per cent. of the total marks shall be declared to have passed the examination in the Second Class. All other candidates shall be deemed to have failed in the examination.

TIME-TABLE OF THE COURSES FOR THE B.S.Sc. DEGREE, MEDICAL COLLEGE.

I.—Autumn term (July to September.)

8—10 ... Medical Entomology and Parasitology—Daily ... ... 90 hours

2—1 ... Bacteriology Lectures—Daily except Friday ... ... 40 hours

Climatology and Meteorology—Friday. 10 hours

1—5 ... Bacteriology Laboratory work—Daily 180 hours

II.—Winter term (October to December)

7—9 ... Vaccination—Daily in October ... 30 hours

Tuberculosis—Daily for three weeks in November ... ... 30 hours

Venereal Diseases—Daily for one week in November ... ... 10 hours

Maternity and Child Welfare and Propaganda—Daily for two weeks in December ... ... 10 hours

Town planning—Daily for two weeks in December ... ... 10 hours

11—12 ... Principles of Public Health—Daily... 40 hours

12—4 ... Public Health Chemistry Laboratory work—Daily ... ...180 hours

III.—Spring term (January to March)

7—10 ... Duties of the Medical Officer of Health and out-door demonstrations—Monday, Wednesday, Friday 90 hours

Infectious Diseases Hospital—Tuesday, Thursday, Saturday ... 60 hours

3—4 ... Epidemiology and Vital Statistics—Daily in January from the second Monday ... ... 20 hours

Sanitary Law and Administration—Daily in February from the second Monday ... ... 20 hours

4—5 ... Sanitary Engineering—Daily in January from the second Monday ... 20 hours

IV.—Summer or Vacation term (April to June)

Public Health Administration and Routine with A Medical Officer of Health ... ... 90 hours

CHAPTER LII (Regulations.)

Degree of Bachelor of Engineering.

Preliminary qualification and duration of course.

1. Candidates for the degree of Bachelor of Engineering shall be required to have passed the Intermediate Examination in Arts and Science in this University or an examination in some other University accepted by the Syndicate as equivalent thereto and subsequently to have attended a constituent or an affiliated College of Engineering for a period of not less than four years.

They shall be further required to have passed the Bachelor of Engineering Degree Examination and to have produced evidence which shall satisfy the Syndicate that they have spent not less than one year in practical work of which at least six months shall be passed by candidates in the Civil branch on Engineering Works, by candidates in the Mechanical branch in an Engineering Workshop, and by candidates in the Electrical Branch in an Electrical Engineering works or Power House.

First Examination in Engineering.

2. Candidates for the First Examination in Engineering shall be required to have attended a constituent or

an affiliated college of Engineering for not less than two years and shall be examined in the following subjects:—

1. Mathematics I.
2. Mathematics II.
3. Physics.
4. Chemistry.
5. Applied Mechanics.
6. Civil Engineering I.
7. Civil Engineering II.
8. Mechanical Engineering.
9. Electrical Engineering.
10. Surveying.
11. Geometrical Drawing.
12. Building Drawing.
13. Machine Drawing.

The syllabus for the course shall be prescribed from time to time by the Academic Council on the recommendation of the Board of Studies (for syllabus *vide* Appendix XII).

Marks qualifying for a pass.

3. Candidates obtaining not less than 33 per cent in each of the following divisions and not less than 50 per cent in the aggregate shall be declared to have passed the examination. All other candidates shall be deemed to have failed in the examination. Successful candidates shall be ranked in the order of proficiency as determined by the total marks obtained by each.

The divisions shall be as follows:—

A. 1. Mathematics I.
2. Mathematics II.
3. Physics.

4. Chemistry.
5. Applied Mechanics.

B. 6. Civil Engineering I.
7. Civil Engineering II.
8. Mechanical Engineering.
9. Electrical Engineering.
10. Surveying.

C. 11. Geometrical Drawing.
12. Building Drawing .
13. Machine Drawing.

Bachelor of Engineering Degree Examination.

Examination—Civil or Mechanical or Electrical.

4. Candidates for the Bachelor of Engineering Degree Examination shall be examined in one of the branches—Civil or Mechanical or Electrical. They shall be required to have passed the First Examination in Engineering and to have attended a constituent or an affiliated College of Engineering for a total period of not less than four years.

Standard of questions.

5. The questions set for this examination should as far as possible relate to and be drawn from Engineering practice, but must be covered by the syllabuses laid down.

Subjects for Civil Branch.

6. Candidates in the Civil Branch shall be examined in the subjects comprised under the following question papers:—

1. Mathematics I.
2. Mathematics II.
3. Strength of Materials and Theory of Structures I.
4. Strength of Materials and Theory of Structures II.

5. Hydraulics.
6. Structural Engineering I.
7. Structural Engineering II.
8. Highway Engineering and Railway Engineering.
9. Civil Engineering Drawing and Design I.
10. Irrigation Engineering and Dock and Harbour Engineering.
11. Sanitary Engineering.
12. Surveying.
13. Civil Engineering Drawing and Design II.

(For Syllabuses *vide* Appendix XII).

Candidates shall also submit their laboratory note-books, survey field books, drawings and designs.

Subjects for Mechanical Branch.

7. Candidates in the Mechanical Branch shall be examined in the subjects comprised under the following question papers:—

1. Mathematics I.
2. Mathematics II.
3. Strength of Materials and Theory of Structures.
4. Theory of Machines.
5. Electrical Technology I.
6. Electrical Technology II.
7. Heat Engines I.
8. Heat Engines II.
9. Machine Drawing and Design I.
10. Fuels, Gas plants and Boilers.
11. Hydraulic Machinery.
12. Workshop Practice and Machine Tools.
13. Machine Drawing and Design II.

(For Syllabuses *vide* Appendix XII).

Candidates shall also submit their laboratory note-books, drawings and designs.

8. Candidates in the Electrical Branch shall be examined in the subjects comprised under the following question papers:—

Subjects for Electrical Branch.

1. Mathematics I.
2. Mathematics II.
3. Strength of Materials and Theory of Structures.
4. Theory of Machines.
5. Electrical Technology I.
6. Electrical Technology II.
7. Heat Engines.
8. Principles of Electrical Machinery I.
9. Principles of Electrical Machinery II.
10. Electrical Measurements and Measuring Instruments.
11. Power Generation, Transmission and Utilization I.
12. Power Generation, Transmission and Utilization II.
13. Machine Drawing and Design.

(For Syllabuses *vide* Appendix XII).

Candidates shall also submit their Laboratory note-books, drawings and designs.

Marks qualifying for pass. Classification of successful candidates.

9. Candidates obtaining not less than 33 per cent in each of the following divisions and not less than 50 per cent in the aggregate shall be declared to have passed the examination. All other candidates shall be deemed to have failed in the examination. Successful

candidates shall be ranked in the order of proficiency as determined by the total marks obtained by each. Candidates obtaining more than 66 per cent of the aggregate marks shall be declared to have passed with Honours.

The divisions shall be as follows:—

Civil Branch.

A. Papers 1, 2, 3, 4 and 5.

B. Papers 6, 7, 8 and 9.

C. Papers 10, 11, 12 and 13.

Mechanical Branch.

A. Papers 1, 2, 3 and 4.

B. Papers 5, 6, 10 and 13.

C. Papers 7, 8, 9, 11 and 12.

Electrical Branch.

A. Papers 1, 2, 3 and 4.

B. Papers 5, 6, 7 and 13.

C. Papers 8, 9, 10, 11 and 12.

Note.—Laboratory note-books, drawings and designs, and Survey Field books will be valued by the Professorial staff of the College and the lists of marks awarded will be sent by the Principal to the Registrar for communication to the Chairman, Board of Examiners, at the end of the College session and just before the commencement of the University Examinations.

CHAPTER LIII.

Degree of Licentiate in Teaching.

1. No candidate shall be eligible for the Degree of Licentiate in Teaching unless he has taken a Degree in this University or a Degree in some other University accepted by the Syndicate as equivalent thereto, and has also passed the prescribed examination.

2. No candidate shall be admitted to the L.T. Degree Examination, unless he forwards before the date of the commencement of the Examination satisfactory evidence of having taken a Degree in this University or in some other University accepted by the Syndicate as equivalent thereto, and produces before the examination a certificate that he has undergone the prescribed course in a Constituent or Affiliated Training College.

3. The course of study, which shall last for one academic year, shall include—

Courses of Study.

(i) A. B. C. The Theory and Practice of Education (for syllabus *vide* Appendix VIII).

(ii) (D). Methods appropriate to the teaching of (1) English and (2) one of the following subjects:—

(a) Child Education,

(b) Mathematics,

(c) Physical Science,

(d) Natural Science,

(e) History,

(f) Geography,

(g) One Language other than English, and

(h) Domestic Science. (For Syllabuses, *vide* Appendix VIII).

(iii) A special subject to be prescribed from time to time.

(iv) Candidates shall also undergo a course in practical training including instruction in school management and practice in teaching.

4. The subjects and the scheme of examination shall be as follows:—

1. Theory and Practice of Education A. B. C. I—3 hours.

2. Theory and Practice of Education A. B. C. II—3 hours.

3. Special Subject—1½ hours.

4. Theory and Practice of Education, Methods of Teaching, (D-1) English—3 hours.

5. Theory and Practice of Education, Methods of Teaching, (D-2) optional subject—one of the following:—3 hours.

Child Education,

Mathematics,

Physical Science,

Natural Science,

History,

Geography,

Language other than English,

Domestic Science.

5. A candidate shall be declared to have passed the examination, if he obtains—(a) not less than 30 per cent. of the marks in the subject for Special Study and not less than 35 per cent. in the Subject of Special Study and Theory and Practice of Education A. B. C. I and II taken together, and (b) not less than 35 per cent in each of the other two papers—D. 1—English, and D. 2—optional subject—and not less than 40 per cent. in the two papers taken together. All other candidates shall be deemed to have failed in the examination. Of the successful candidates those who obtain not less than 60 per cent. of the total marks shall be placed in the first class and those who obtain not less than 50 per cent. of the total marks shall be placed in the second class. The remaining successful candidates shall be placed in the third class. Successful candidates who obtain not less than 60 per cent. of the marks in the paper relating to D-(1) or the paper relating to D-(2) shall be declared to have obtained distinction in that subject.

Classification of successful candidates.

6. Notwithstanding anything contained in Regulation 2 above, about the duration of the prescribed course, it shall be competent to the Syndicate to admit to the L.T. Degree Examination certificated *bona fide* trained teachers who have passed the B.A. Degree Examination and who have undergone a course of instruction in a Constituent or Affiliated Training College for Teachers during the third term and attended a vacation course conducted by a Constituent or Affiliated Training College for Teachers and who satisfy the general rules relating to the grant of exemption to *bona fide* certificated Trained Teachers prescribed by the Syndicate for admission to Matriculation, Intermediate and B.A. Degree Examinations.

CHAPTER LIV.

Degree of Bachelor of Science in Agriculture.

*(Revised Regulations.)

1. Candidates for the Degree of Bachelor of Science in Agriculture (B.Sc. Ag.) shall be required—

Conditions of admission.

(1) to have passed (*a*) the Intermediate Examination in Arts and Science of this or some other recognized University, having offered as optionals, Chemistry and any two of the following subjects:—

Mathematics, Physics, Natural Science, Botany, Zoology including Human Physiology, and Agriculture;

or (*b*) an examination accepted by the Syndicate as equivalent thereto.

(2) to have undergone subsequently a further Course of Study in Agriculture extending over three years at a College of Agriculture recognised by or affiliated to this University, and to have passed the examination for the Degree hereinafter prescribed.

*For Regulations in force prior to 1932-33, *vide* Appendix XIX.

Course of study. 2. The course of study in Agriculture shall comprise both theoretical and practical instruction in the following subjects:—

(i) Agriculture.
(ii) Agricultural Botany.
(iii) Agricultural Chemistry.
(iv) Agricultural Zoology.
(v) Agricultural Engineering.
(vi) Animal Hygiene.

Syllabus 3. The syllabus of studies under each of the above subjects shall be prescribed from time to time by the Academic Council on the recommendation of the Board of Studies in Agriculture. (For Syllabus, *vide* Appendix VII).

Examinations.

4. For the Degree of B.Sc. in Agriculture there shall be three examinations. No candidate shall be eligible for the degree unless he has completed the course of study prescribed and passed all the examinations.

5. The examination in each subject shall be both written and practical. In conjunction with each practical examination there may be an oral examination of each candidate. Each candidate shall produce his laboratory and field note books at the time of the practical examination.

6. The First Examination shall be held at the end of First year of the Course of Study and shall be in the following subjects:—

(i) Agriculture.
(ii) Botany.
(iii) Chemistry.
(iv) Zoology.

7. The Second Examination shall be held at the end of the Second year of the Course of Study and shall be in the following subjects:—

(i) Agriculture—Plant Husbandry.

(ii) Agricultural Engineering.

(iii) Agricultural Zoology.

(iv) Animal Hygiene.

8. The Final Examination shall be held at the end of the Third year of the Course of Study and shall be in the following subjects:—

(i) Agriculture—Economics and Farm Management.

(ii) Agriculture—Animal Husbandry.

(iii) Agricultural Botany.

(iv) Agricultural Chemistry.

9. No candidate will be permitted to appear for Examination in any subject unless he produces a certificate of having completed the prescribed course in that subject.

10. No candidate shall be permitted to appear for the second examination unless he has passed in each of the subjects comprising the first examination.

11. A candidate who fails in not more than one subject in the second examination will be permitted to appear for the final examination as well as for the examination in the subject in which he has failed.

Marks Qualifying for a pass.

12. A candidate shall be declared to have passed the first examination if he obtains not less than 40 per cent. of the marks in each of the four subjects prescribed for the examination.

13. A candidate shall be declared to have passed the second examination if he obtains not less than 40 per cent of the marks in each of the four subjects prescribed for the examination.

14. A candidate shall be declared to have passed the final examination if he obtains not less than 40 per cent of the marks in each of the four subjects prescribed for the examination.

Classification of successful candidates.

15. A candidate who obtains 40 per cent. in any subject in the Second or Final examination shall be declared to have passed in that subject. Any candidate who passes the Second and Final examinations at the first appearance with 60 per cent. of the total marks in each examination shall be declared to have passed in the First Class. All other successful candidates shall be declared to have passed in the Second Class. Any candidate who obtains a pass in the Second or Final Examination at the first appearance and secures not less than 75 per cent. of the marks in any subject shall be declared to have passed with distinction in that subject. With regard to Agriculture, however, the marks of the Second and Final examination will be considered together for the award of distinction.

Successful candidates at the final examination shall be ranked in the order of merit.

16. Candidates who fail in any of the subjects in the Second and Final examinations will be permitted to appear in such subjects at any subsequent examinations on payment of the prescribed fees and need not produce any additional attendance.

Transitory Regulation.

17. The Examination for the B.Sc. Ag. Degree under the Regulations in force prior to the academic year 1932-33, shall be held till the end of the academic year 1934-35, for the benefit of those candidates who have completed their courses of study or were undergoing their courses of study in the year 1931-32 under the above Regulations.

CHAPTER LV.

Degree of Bachelor of Science (Veterinary) [B. Sc. (Vety.)]

1. Candidates for the Degree of Bachelor of Science (Veterinary) shall be required—

(1) to have passed the Intermediate Examination in Arts and Science of this University, taking either Chemistry or Natural Science as one of the optional subjects, or an examination accepted as equivalent thereto by the Syndicate;

(2) to have subsequently studied for a period of three years and one term (consisting of 10 academic terms) in a College of Veterinary Science recognised by or affiliated to this University;

(3) to have passed the B.Sc. (Veterinary) Preliminary, Intermediate and Final Examinations.

2. The course for the Degree of B.Sc. (Veterinary) shall extend over a period of three years and one term, consisting of ten academic terms (ordinarily consecutive). The curricula and syllabuses for the course shall be prescribed from time to time.

The examinations for the degree shall consist of a Preliminary Examination, an Intermediate Examination and a Final Examination.

B.Sc. (Vety.) Preliminary.

3. A candidate for this examination shall undergo a course of instruction in the following subjects extending over an academie year:—

(*a*) Biology.

(*b*) Chemistry.

The candidates shall be examined in each of the above subjects. The examination in Biology shall consist of written and oral parts; and that in Chemistry written, practical and oral parts.

4. Candidates who have passed the Physical or Natural Science group of the B.A., B.Sc., B.Sc. (Honours) or B.A. (Honours) Degree examination of this University with Chemistry or Zoology as their main optional subject or an examination of any other Indian University accepted by the Syndicate as equivalent thereto, shall be exempted from undergoing the course and the examination in the respective subjects in which they have passed the Degree examination. Such candidates shall, however, be required to pay the fee prescribed for the whole examination.

5. Candidates for the examination shall be declared to have passed the examination if they obtain not less than one half of the marks in the written parts and not less than one half of the marks in the oral part in Biology, and not less than one half of the marks in the practical and oral parts in Chemistry taken together. All other candidates shall be deemed to have failed in the examination.

6. Candidates who fail in the examination, but obtain the prescribed minimum marks for a pass in any subject shall be exempted from re-examination in that subject.

7. Candidates who pass the whole examination at their first appearance shall be arranged in two classes—the first consisting of those who obtain not less than 75 per cent. of the total marks and the second consisting of others. They shall be arranged in either class in the order of their total marks.

B.Sc. (Vety.) Intermediate.

8. The course for the B.Sc. (Vety.) Intermediate shall extend over a period of one academic year. No candidate shall be admitted to the examination unless he has previously passed the B.Sc. (Vety.) Preliminary

examination and undergone a course of instruction in the prescribed subjects, viz.:—

(a) Physiology, including Experimental Physiology, Histology and Bio-Chemistry, etc.

(b) Pathology, including Bacteriology and Immunology.

(c) Parasitology, including Proto-Zoology.

9. Candidates for the examination shall be examined in each of the above subjects and the examination in each subject shall consist of written, practical and oral parts.

10. Candidates shall be declared to have passed the Intermediate examination if they obtain in each subject not less than one half of the marks in the written parts and not less than one half of the marks in practical and oral parts taken together. All other candidates shall be deemed to have failed in the examination.

Candidates who pass the whole examination at their first appearance shall be arranged in two classes—the first consisting of those who have obtained not less than 75 per cent. of the total number of marks and the second consisting of all others. They shall be arranged in either class in the order of their total marks.

11. Candidates who fail in the examination but obtain the prescribed minimum marks for a pass in any subject shall be exempted from re-examination in that subject.

12. Candidates who complete the examination by passing subject by subject shall be placed in a separate group in the second class.

B.Sc. (Vety.) Final.

13. Candidates appearing for this examination shall undergo a course of study in the following subjects, extending over a period of four academic terms, ordinarily consecutive:—

(*a*) Preventive Medicine.

(*b*) Meat and Milk Inspection.

(*c*) Hygiene.

Candidates shall be examined in each of the above subjects and the examination in each subject shall consist of a written and an oral part.

14. No candidate shall be admitted to the Final examination, unless he has passed the B.Sc. (Veterinary) Preliminary and Intermediate examinations and has also obtained the Diploma in Veterinary Science awarded to the students of the Veterinary College by the Government of Madras or a Diploma awarded by any other recognised body and accepted by the Syndicate as equivalent thereto and has pursued a course of study in the prescribed subjects.

15. Candidates for the examination shall be declared to have passed the examination if they obtain in each subject not less than one half of the marks in the written parts and not less than one half of the marks in the oral parts. All other candidates shall be deemed to have failed in the examination.

16. Candidates who pass the whole examination at their first appearance shall be arranged in two classes, the first consisting of those who have obtained not less than 75 per cent. of the total marks and the second consisting of all others. They shall be arranged in either class in the order of their total marks.

17. Candidates who complete the examination by passing subject by subject shall be placed in a separate group in the second class.

18. Candidates who fail in the examination but obtain the prescribed minimum marks for a pass in any subject shall be exempted from re-examination in that subject.

CHAPTER LVI.

Degree of Bachelor of Commerce.

1. Candidates for the Degree of Bachelor of Commerce (B. Com.) shall be required—

(1) to have passed the Intermediate Examination in Arts and Science of this University taking as optional subjects under Part III Elements of Commerce and Accountancy and any two of the following subjects: namely (*a*) Economic History of England and Economic Geography, (*b*) Modern History, (*c*) Indian History, (*d*) Logic, (*e*) Mathematics

or

an examination of some other University recognised by the Syndicate as equivalent thereto;

(2) to have undergone subsequently a further course of study in Commerce extending over a period of three academic years at a College of Commerce recognised by or affiliated to the University and

(3) to have passed the examinations for the degree prescribed in the regulation following.

2. The course of study for the B.Com. degree Examination shall comprise instruction in the following subjects according to a syllabus to be prescribed from time to time.

Compulsory Subjects:

English:—

1. Essay with Bibliography.

2. Precis Writing: Business Correspondence.

3. A Second Language; Translation from either Hindi, French or German.

4. Principles of Economics.

5. Present Organisation of Industry and Trade.

6. Currency and Banking, International Trade and Foreign Exchanges.

7. Statistical Methods and Applications.

8. Elements of Commercial Law.

9. Recent Economic History.

10. Economic Geography.

Optional Subjects:

II. One of the following groups of optional subjects:—

(*a*) (i) Advanced Accounting and Auditing.
(ii) Mercantile Law.

(*b*) (i) Advanced Banking Theory.
(ii) Banking Law and Practice.

(*c*) (i) International Trade and Tariffs.
(ii) Transport.

(*d*) (i) Public Finance.
(ii) Public Administration.

(*e*) (i) Rural Economics.
(ii) Co-operation.

(*f*) (i) Insurance and Annuities.
(ii) Insurance (Mathematical).

3. The examination shall be by means of written papers and there shall be one paper in each of the compulsory subjects (1 to 10) and one paper in each of the two subjects in the optional group chosen by the candidates. Each paper shall be of three hours' duration.

The examination shall be in two parts, Preliminary and Final.

The Preliminary Examination shall be held at the end of the first year of the course and the examination shall be in the following subjects:—

Precis Writing and Business Correspondence.

Statistical Methods and Applications.

Present Organisation of Industry and Trade.

Economic Geography.

The Final Examination shall be held at the end of the third year and the examination shall be in the other compulsory subjects and the optional group.

4. No candidate shall be admitted to the Preliminary Examination unless he has qualified as required in Regulation (1) *supra* and has undergone the prescribed course in an affiliated or recognised institution and has produced the required certificate of attendance and progress for one year.

5. No candidate shall be admitted to the Final examination unless he has passed the Preliminary Examination and has undergone the prescribed course in an affiliated or recognized institution and has produced the prescribed certificates of attendance and progress for two academic years after his first appearance for the Preliminary Examination.

6. A candidate shall be declared to have passed the Preliminary Examination if he obtains not less than 30

per cent of the marks in each paper for the examination and not less than 40 per cent of the marks in the aggregate. All other candidates shall be deemed to have failed in the examination.

7. A candidate shall be declared to have passed the Final Examination if he obtains 30 per cent. of the marks in each paper in the remaining compulsory subjects, 35 per cent of the marks in the two papers in the subjects of the optional group chosen by the candidate and 40 per cent. of the marks in the aggregate (both compulsory and optional subjects). All other candidates shall be deemed to have failed in the examination.

Successful candidates shall be ranked in the order of proficiency as determined by the total marks obtained by each at the Final Examination and shall be arranged in three classes.

The *first* consisting of those who obtain not less than 60 per cent. of the total marks; the *second* of those who obtain less than 60 per cent. but not less than 50 per cent. of the total marks; the *third* of those who obtain less than 50 per cent. but not less than 40 per cent. of the total marks.

Candidates who obtain not less than two-thirds of the marks in any subject shall be declared to have passed with distinction in that subject.

CHAPTER LVII.

Titles, Certificates of Proficiency, and Degree in Oriental Learning

Examination

1. There shall be an examination in Oriental Learning with a *compulsory division* for Titles and an *optional division* qualifying for certificates of proficiency in the modern methods of study.

(i) *Compulsory Division for Titles.*

2. The titles shall be as follows:—

Names of Titles

Siromani added to Mimamsa, Vedanta, Nyaya, Vyakarana, Sahitya, Jyotisa, or Ayurveda according to the special branch of study elected by the candidate who has offered for his examination Sanskrit alone;

Vidvan in the case of a candidate who has offered for his examination either (*a*) Sanskrit and any one of the Dravidian languages (Tamil, Telugu, Kanarese, and Malayalam), or Sanskrit and either Marathi or Oriya, or (*b*) Tamil, Telugu, Kanarese, Malayalam, Oriya or Marathi as the main language with Sanskrit as a subsidiary language, or (*c*) any two of the Dravidian languages—Tamil, Telugu, Kanarese and Malayalam, or (*d*) Tamil alone.

Afzal-ul-Ulama in the case of a candidate who has offered for his examination Arabic alone;

Munshi-i-Fazil in the case of a candidate who has offered for his examination Persian as the principal language, and Urdu as the subsidiary language, and also possesses an elementary knowledge of Arabic Grammar.

Subjects

3. Candidates for the *Siromani* title shall offer for their examination Sanskrit alone; and those for the *Vidvan* title either (*a*) Sanskrit and any one of the Dravidian languages (Tamil, Telugu, Kanarese, and Malayalam), or (*b*) Sanskrit and either Marathi or Oriya, or (*c*) Tamil, Telugu, Kanarese, Malayalam, Oriya, or Marathi as the main language with Sanskrit as a subsidiary language, or (*d*) any two of the Dravidian languages—Tamil, Telugu, Kanarese and Malayalam, or (*e*) Tamil alone.

Candidates for the *Afzal-ul-Ulama* title shall offer for their examination Arabic alone; and those for the *Munshi-i-Fazil* title Persian as the principal language and Urdu as the subsidiary language.

4. The course of studies for the examination for Titles shall extend over four years and shall be taken in an institution or institutions approved by the Syndicate.

Course of Studies four years

5. The examination for Titles shall be divided into two parts, viz.—preliminary and final—the preliminary examination in a specified portion of the course at the end of the second year and the final in the remaining portion of the course at the end of the fourth year. No candidate shall be admitted to the final examination until he has passed the preliminary examination.

Examination—Preliminary and Final

5-A. Candidates who have qualified under the regulations of this Chapter for Titles in Oriental Learning may continue their studies under the same regulations in order to qualify further (i) for the same title in an additional Branch or in additional Branches, or in an additional Language, or in additional Languages, or (ii) for other Titles, under the conditions following:—

General.

i. No candidate who has qualified for a Title will be admitted to any further examination for a Title, except after the expiry of two years from the date of passing the last preceding qualifying examination; provided that candidates who have qualified for (1) the Siromani Title in any one of the three South Indian Schools of Vedanta included in Branch II or (2) one of the titles in Arabic or Persian shall be admitted to a further examination (1) in any other South Indian School of Vedanta, or (2) in the other title in Arabic or Persian after the expiry of one year from the date of passing the last preceding qualifying examination.

ii. Applications for exemption from the production of the prescribed certificates shall be forwarded so as to reach the Registrar before the 1st October preceding the examination.

iii. No candidate who has already proceeded to a Title and has been awarded his Diploma shall be admitted

at Convocation a second time to the same Title, notwithstanding that he may have qualified in an additional Branch or in an additional Language: an endorsement will be made upon his Diploma setting forth the further examinations passed by him, the dates of such examinations and the class in which he was placed.

iv. The provisions of Regulation 14 of this Chapter shall apply to all examinations held under this Regulation which shall, for the purposes of this regulation, be deemed to be equivalent to either the Preliminary or the Final Examination for a Title, as the case may be.

Special.

1. *Siromani*—

A candidate who has qualified for the Title of Siromani in any one of the special branches of study may further qualify in any other branch by passing an examination in such branch consisting of the question papers set in the special part only for both the Preliminary and Final Examinations in that branch; provided that, in the case of candidates who have already qualified in one of the three South Indian Schools of Vedanta and seek to qualify in any other South Indian School of Vedanta, and such further examination in the special part alone shall consist only of four papers, viz., (1) the two papers on prescribed text-books relating to the Bhashya Prasthana included in the Preliminary Examination, and (2) the two papers prescribed on text-books; Special I and Special II relating to the Vada Prasthana included under (*a*) in the Final Examination (*vide* Regulation 6, Branch II). Such further examination shall consist of two parts—*viz.*, Preliminary and Final. Each of these two parts shall consist only of the papers set therefor in the subjects of the special part in the year in which the candidate appears. These two parts may, at the option of the candidate, be taken in the same year or in separate years, the examination in the final part in the latter case being taken only after passing the examination in the preliminary part. In the case of candidates who take the examination in both the parts in the same year, those who secure the prescribed passing minimum in the preliminary part alone shall be declared

to have passed the examination in that part, while those who fail to secure the prescribed minimum, in the preliminary part shall be deemed to have failed in the whole examination. The provision of Regulation 14 shall apply to each of these two parts consisting only of the papers mentioned above.

ii. *Siromani and Vidvan*—

A candidate who has qualified for the Title of Siromani may further qualify for the Title of Vidvan by passing the examination for that Title in accordance with the regulations, provided that such a candidate who offers for his examination Sanskrit and a Dravidian language, Marathi or Oriya shall be exempted from examination in Sanskrit and shall be permitted to take the whole examination in the vernacular language in one year, and may qualify for the Title of Vidvan by passing the examination in that language; provided also that such a candidate who offers for his examination two Dravidian languages and is exempted by the *Senate from the production of the required certificates shall be permitted to take the Preliminary and Final Examinations in successive years.

iii. *Vidvan*—

A candidate who has qualified for the Title of Vidvan may qualify in an additional language or in additional languages by passing the examination in such language or languages according to the regulations. A candidate who offers one additional language only may take the whole examination in that language in one year, and a candidate who offers for his examination two Dravidian languages and is exempted by the *Senate from the production of the required certificates shall be permitted to take the Preliminary and Final Examinations in successive years.

Candidates desiring to qualify in an additional Dravidian languages may offer either of the courses in that language detailed in Regulation 7 of this Chapter.

6. *Siromani*—

Siromani—Course of Studies for

1. The course of studies shall be as follows:—

*Note.—Such Exemptions are now granted by the Syndicate.

A. General.

(*a*) The History of Sanskrit Language and Literature.

(*b*) Prescribed text-books.

B. A Special Subject.

ii. *For the preliminary examination*, the course in the general part shall comprise—

(*a*) Prescribed text-books relating to the elements of Tarka, Mimamsa and Vyakarana;

(*b*) Prescribed text-books chosen from among the Mantras, the Brahmanas, the Upanishads, the Grhya and Dharma Sutras and the Smritis.

For the final examination, the course in the general part shall comprise the History of Sanskrit Language and Literature.

iii. The course in the special part shall consist of one of the following branches of study taken by the candidate:—

BRANCH I.—*Mimamsa Group.*

For the preliminary examination, prescribed text-books relating to Purvamimamsa, Veda, Srauta and Dharmasastra.

For the final examination, (*a*) prescribed text-books relating to Purvamimamsa. (*b*) The application of Mimamsa to Vedic exegesis and to the proper comprehension of the social and the legal aspects of the Dharmasastras.

BRANCH II.—*Vedanta Group.*

For the preliminary examination prescribed text-books relating to the *Bhashya Prasthana* of one of the three South Indian Schools of Vedanta viz.—Advaita, Visistadvaita and Dvaita.

For the final examination, (*a*) prescribed text-books relating to the *Vada Prasthana* of one of the three South

Indian Schools of Vedanta; and (*b*) prescribed text-books relating to Yoga, Sankhya and the elements of the three South Indian Schools of Vedanta.

There shall be two papers on the books prescribed under (*a*) and one paper on the books prescribed under (*b*).

BRANCH III.—*Nyaya Group.*

For the preliminary examination, prescribed text-books relating to the Nyaya and Vaisesika Darsanas including select portions of Purvavada.

For the final examination, prescribed text-books relating to Nyaya and Vaisesika Darsanas including select portions of Uttaravada and of the Sabdabodha works in Nyaya and Mimamsa.

BRANCH IV.—*Vyakarana Group.*

For the preliminary examination, prescribed text-books relating to advanced Vyakarana, including select portions of standard commentaries on the *Siddhantakaumudi.*

For the final examination, prescribed text-books relating to advanced Vyakarana, including Sabdabodha works in Vyakarana and select portions of the *Mahabhasya* and standard commentaries on the *Siddhantakaumudi.*

BRANCH V.—*Sahitya Group.*

For the preliminary examination, prescribed Kavyas and Natakas and a simple work in poetics.

For the final examination, (*a*) prescribed text-books relating to Grammar, Prosody and Poetics; and (*b*) prescribed text-books of an advanced character, relating to Alankara Sastra.

BRANCH VI.—*Jyotisa Group.*

For the Preliminary Examination.—Prescribed books in Jyotisa and Ganita.

For the Final Examination.—Prescribed books of an advanced character, in Jyotisa and Ganita.

BRANCH VII.—*Ayurveda Group.*

For the Preliminary Examination.—Prescribed books in Ayurveda and a certificate of having attended the practice of a Hospital for one year under an Ayurvedic Physician.

For the Final Examination.—Prescribed books of an advanced character in Ayurveda and a certificate of having attended the practice of a Hospital for 2 years under an Ayurvedic Physician.

iv. *Siromani Examination*—

(*a*) In the preliminary examination there shall be in the general part two papers on the prescribed text-books; and, in the special part, two papers on the prescribed text-books.

(*b*) In the final examination there shall be in the general part one paper on the History of Sanskrit Language and Literature and in the special part there shall be three papers on the prescribed text-books.

Vidvan—Course of Studies for

7. A. Vidvan with Sanskrit.

i. *Sanskrit*—

The course shall be—

For the preliminary examination, prescribed Kavyas, Natakas, a simple work in Poetics and a prescribed portion in Grammar. The text-books prescribed under this head shall, as far as possible, be the same as those prescribed for the preliminary examination under Branch V Sahitya group—Siromani course.

For the final examination, (*a*) History of Sanskrit Language and Literature; and (*b*) prescribed text-books relating to Grammar, Prosody and Poetics. The text-books prescribed under this head shall be the same as those prescribed under (*a*) for the Sahitya Siromani final examination.

ii. *Vernacular language*—

The course shall be—

For the preliminary examination, (*a*) prescribed text-books in Poetry and Prose; and (*b*) Vernacular Composition.

For the final examination, prescribed text-books relating to Grammar, Prosody and Poetics.

iii. *Vidvan Examination*—

(*a*) In the preliminary examination there shall be one paper on the prescribed text-books relating to the selected Vernacular language, one paper in Vernacular Composition and two papers on the prescribed Sanskrit text-books. The last-mentioned papers shall, as far as possible, be the same as the papers on the text-books prescribed for the preliminary examination under the special part of the Sahitya Siromani course, such questions on the prescribed text in Grammar as may be placed in these papers being required to be answered by the Vidvan candidates only. A lower standard than that of the Sahitya Siromani shall be required in the case of the Vidvan candidate.

(*b*) In the final examination, there shall be—

(i) A paper on the prescribed Sanskrit text-books.

(ii) A paper on the History of the Sanskrit Language and Literature.

N.B.—This paper shall be the same as the corresponding paper for the Siromani examination, a lower standard than that of Siromani being required in the case of Vidvan candidates.

(iii) A paper on the prescribed Vernacular text-books relating to Grammar, Prosody and Poetics.

N.B.—The first paper on the text-books prescribed for the Sahitya Siromani final examination shall be identical with paper (i) comprised in the Vidvan final examination and shall be on the text-books prescribed under (*a*) for the Sahitya Siromani final examination, a lower

standard than that of the Sahitya Siromani being required in the case of Vidvan candidates. The second and third papers on text-books for the Sahitya Siromani final examination shall be on those prescribed therefor under (*b*).

B Vidvan—with Tamil, Telugu, Kanarese, Malayalam, Oriya or Marathi as the main language and Sanskrit as a subsidiary language.

I. *The Selected Vernacular Language*—

The course shall be—

For the preliminary examination, (*a*) prescribed text-books in Poetry and Prose; (*b*) prescribed text-books relating to Grammar; and (*c*) Composition.

For the final examination, (*a*) prescribed text-books in Poetry; (*b*) prescribed text-books relating to Advanced Grammar, Prosody and Poetics; (*c*) History of Language and Literature.

II. *Sanskrit*—

The course shall be—

For the preliminary examination, (*a*) prescribed texts in simple Poetry and Prose; (*b*) Elementary Grammar taught in relation to (*a*); (*c*) Translation from Sanskrit into the selected Vernacular Language.

For the final examination, (*a*) prescribed text-books in Kavyas and Natakas; (*b*) Elementary Prosody and Poetics taught in relation to (*a*).

III. *Vidvan Examination*—

(i) In the preliminary examination in the selected Vernacular Language there shall be two papers on the prescribed text-books in Poetry and Prose and those relating to Grammar and one paper on Composition. In Sanskrit there shall be one paper of two parts, the first containing questions on Sanskrit Grammar and Poetry and

Prose text-books and the second containing passage or passages for translation from Sanskrit into the selected Vernacular Language.

(ii) In the final examination in the selected Language there shall be one paper on Poetry text-books, one paper on text-books relating to Advanced Grammar, Prosody and Poetics, and one paper on History of Language and Literature. In Sanskrit there shall be one paper containing questions on text-books.

The standard required in Sanskrit shall not be higher than that required for that language taken as an optional subject in Part II of the Intermediate Examination.

* C. Vidvan—two Dravidian languages without Sanskrit.

The course in each Dravidian language, the text-books prescribed and the examination therein shall be identical with those prescribed for the same language when offered along with Sanskrit for the Vidvan title; provided that a candidate who offers two Dravidian languages shall, at the end of the second year of his course, take his preliminary examination in one of the two Dravidian languages by answering all the three question papers in that language as set forth under 7-A (iii) *supra* for the preliminary and final examinations, and that he shall, at the end of the fourth year of his course, take his final examination in the other Dravidian language by adopting a similar procedure.

D. Vidvan—Tamil alone—

I. The course shall be—

For the preliminary examination, (*a*) prescribed text-books in Poetry and Prose; (*b*) prescribed text-books relating to Grammar; (*c*) Composition; and (*d*) History of Tamil country.

Note.*—The course of study for the Vidvan Title under Regulation 7-A and C. in Telugu shall include Lakshnagrandhas (Grammar, Prosody and Poetics) along with Lakshyagrandhas (Literature, Kavya and Prabandhas) for Preliminary and Final Examinations. For books-*vide* **Appendix XIII.

For the final examination, (*a*) prescribed text-books in Poetry; (*b*) prescribed text-books relating to Advanced Grammar, Prosody and Poetics; (*c*) History of Language and Literature; and (*d*) Inscriptions.

II. (*a*) In the preliminary examination in Tamil there shall be two papers on the prescribed text-books in Poetry and Prose and those relating to Grammar; one paper on composition; and one paper on the History of Tamil Country.

(*b*) In the final examination in Tamil there shall be one paper on Poetry text-books; two papers on text-books relating to Advanced Grammar; Prosody and Poetics; one paper on History of Language and Literature; and one paper on Inscriptions.

Afzal-ul-Ulama-course of studies for

8. The following shall be the course of studies in Arabic for the title *Afzal-ul-Ulama*:—

A. Preliminary

The courses of study shall consist of—

I. Tafsir and Hadith.

II. Fiqh, 'Aqaid and Mantiq.'

III. Prose Text-books.

IV. Poetry Text-Books.

V. History.

VI. Translation from Arabic into Urdu and from Urdu into Arabic.

B. Final

The courses of study shall consist of—

I. Tafsir and Hadith and Ilmul Hadith.

II. Fiqh, Usulul Fiqh.

III. Prose Text-books.

IV. Poetry Text-books.

V. History.

VI. Translation from Arabic into Urdu and from Urdu into Arabic.

VII. Mantiq and Balaghat.

VIII. Composition.

Candidates for the Examination in Afzal-ul-ulama Title whose mother tongue is one of the Dravidian Languages shall be exempted from examination in the paper on Translation from Arabic into Urdu or *vice versa*, but shall be required to take in its stead a paper on an additional Text book in Arabic to be prescribed from time to time.

Munshi-i-Fazil-course of studies for

9. The following shall be the courses of studies for the title *Munshi-i-Fazil*—

A. Preliminary

The courses of study shall consist of Persian as the main language and Urdu as a subsidiary language, together with a text-book in Arabic.

Persian as the main subject will include—

I. Persian Prose.

II. Persian Poetry.

III. Translation from Persian into Urdu and *vice versa*.

IV. Composition in Persian.

Urdu as the subsidiary subject will include—

I. Urdu Prose.

II. Urdu Poetry.

Questions on Grammar may be put in the examination papers on the Text-books.

B. FINAL

The courses of study shall consist of Persian as the main language and Urdu as a subsidiary language, together with a text-book in Arabic.

Persian as the main subject will consist of

I. Persian Prose.

II. Persian Poetry.

III. Translation from Persian into Urdu and *vice versa.*

IV. History of Persian language and literature.

V. Composition in Persian.

Urdu as the subsidiary subject will consist of

I. Urdu Prose.

II. Urdu Poetry.

Questions on Grammar may be put in the examination papers on the Text-books.

Answering of papers

10. All the papers in the examination for titles shall be set and answered in the respective languages to which they relate provided that papers in Sanskrit as the subsidiary language for the Vidvan course mentioned under 2 (*b*) in this chapter shall be set in Sanskrit and answered in the respective main languages of the candidates. Devanagari script shall be used for Sanskrit.

Admission test

11. No person shall be permitted to enter upon any of the foregoing Vidvan and Siromani courses of study for titles unless he has passed the admission test conducted by the Educational Department and obtained from the department a certificate of fitness for the course he proposes to take up, in the case of candidates taking Sanskrit as one of the two languages mentioned under 2 (*a*) and (*b*) of this Chapter.

In the case of candidates for the Vidvan Title selecting Tamil alone, or a Dravidian language, Marathi, or Oriya, as the main language, the admission test shall consist of the two papers set for the Intermediate Examination in Arts and Science in the corresponding Indian Language mentioned in Regulation 2 (c) of Chapter XXXVIII, provided that the question on translation in the three hours paper for the Intermediate Examination in Arts and Science shall, in the case of candidate for this admission test be replaced by questions on paraphrase or composition in the selected language. Candidates obtaining not less than 40 per cent. of the total number of marks in the two papers mentioned above taken together shall be certified eligible for admission to the respective Vidvan courses. A candidate for the Intermediate Examination in Arts & Science, who has obtained the prescribed passing minimum in Part II thereof shall, without any further admission test, be admitted to the Vidvan course, provided that the language selected for that course as the main or only language, is identical with the language in which he has passed Part II of the Intermediate Examination.

Certificate of fitness.

No person shall be permitted to enter upon the courses of study prescribed for the titles *Afzal-ul-Ulama* and *Munshi-i-Fazil,* unless he has obtained a certificate of fitness from the head of the approved institution which he proposes to enter.

Provided, however, that it shall be competent for the Syndicate to recognize the admission tests of other Universities or examinations conducted by Indian States as qualifying for admission to the Vidvan and Siromani Courses of this University.

Approval of Institutions

12. The Syndicate shall be empowered to approve, for the purpose of the examination, such institutions as in its opinion are duly qualified to provide efficient instruction in one or more of the courses prescribed, and also to withdraw such approval if at any time it thinks fit to do so.

Applications for approval

All the applications for approval under this Regulation shall be referred for opinion to the Boards of Studies concerned before they are finally disposed of by the Syndicate.

13. The Syndicate shall have the power to grant exemption from the production of either or both of the annual certificates of attendance required by candidates for the Oriental Title Examinations, provided that the candidate—

Exemption from certificates (Ordinance.)

(1) is at the time of the examination at least twenty five years of age, subject to the proviso that the Syndicate may at its discretion exempt in special cases candidates from a strict compliance with the stipulation as *regards* age and

(2) is certified by the head of an approved institution, or by a member of the Board of Studies dealing with the subject or language offered for the examination, or by a Mahamahopadhyaya or a Shamsul-ul-Ulama or by any other competent scholar recognised by the Syndicate, to be qualified by his attainments to appear for the examination.

Applications for exemption under this Ordinance must be forwarded so as to reach the Registrar before the 1st October preceding the examination.

Provided also that the above exemption shall not be granted to a candidate who, within the preceding four years from the date of the certificate above referred to, failed to secure 30 per cent. of the marks in the compulsory paper in Sahitya and elementary grammar prescribed for the Sanskrit Entrance examination conducted by the Educational department, having sat for it; or who failed to secure eligibility for admission to any Branch or Group of the Oriental Title Course, having sat for the paper in the Entrance Examination relating to that Branch or Group.

Certificate for exemption.

I hereby certify that, to the best of my knowledge and belief . . . will have completed his twenty-fifth year before the date of the next Oriental Title Examination, and that he is qualified by his attainments to appear for the examination.

I certify also that, to the best of my knowledge and belief, within the preceding four years from the date of

this certificate, he did not fail to secure 30 per cent. of the marks in the compulsory paper Sahitya and elementary grammar prescribed for the Sanskrit Entrance Examination, having sat for it; nor did he fail to secure eligibility for admission to any Branch or Group of the Oriental Title course, having sat for the paper in the Entrance Examination relating to that Branch or Group.

Date *Signature.*

Marks qualifying for a pass

Classification of successful candidates

14. A candidate shall be declared to have passed the preliminary examination if he obtains not less than forty per cent of the total marks in that examination. A candidate shall be declared to have passed the final-examination if he obtains not less than forty per cent of the total marks in that examination. A candidate, however, appearing for Vidvan Examination, Preliminary or Final, under Regulation 7-(B)—with Tamil, Telugu, Kanarese, Malayalam, Oriya or Marathi as Main Language and Sanskrit as a Subsidiary Language, shall obtain not less than 25 per cent. of the marks in the Subsidiary Language at the Examination. A candidate, however, appearing for the Vidvan Examination, Preliminary or Final, under Regulation 7-D—Tamil alone—shall obtain not less than 35 per cent. of the marks in each of the following divisions:—(a) Literature, (b) Grammar, (c) Other Subjects. All other candidates shall be deemed to have failed. Successful candidates in the final examination shall be arranged in three classes:—

The first, consisting of those who obtain not less than sixty per cent; the second, of those who obtain not less than fifty per cent; and the third, of those who obtain less than fifty per cent of the total marks.

(ii) CERTIFICATES OF PROFICIENCY IN ORIENTAL LEARNING.

Subjects for Examination

15. Candidates for certificates shall offer for their examination one of the following subjects—

*(1) Literary Criticism as applied to Sanskrit Literature.

*For Syllabus—*vide* Appendix XIV.

*(2) Indian Philosophy in its relation to Western Philosophy.

*(3) Indo-European Philology with special reference to Sanskrit.

*(4) South Indian Languages and Literatures in their bearing on Ancient Indian History and Culture.

*(5) Hindu Law and Jurisprudence.

*(6) Muhammadan Law and Jurisprudence.

*(7) Literary Criticism as applied to Arabic or Persian Literature.

*(8) Arabian Philosophy in its relation to Western Philosophy.

*(9) Semitic Philology—for Arabic; and Indo-Persian Philology with special reference to Persian—for Persian.

*(10) Dravidian Philology with special reference to Dravidian Languages of South India—Tamil, Telugu, Kanarese or Malayalam.

Course of studies—two years

16. The course of studies for the examination shall extend over a period of two years and shall be taken in an institution or institutions approved for the purpose by the Syndicate.

Papers set and answered in English

17. The question papers in the examination for certificates shall be set and answered in English.

Day of Examination

18. The examination for certificates shall follow immediately the Final Examination for Titles in Oriental Learning.

*For Syllabus—*vide* Appendix XIV.

Admission

19. No candidate shall be admitted to the examination for certificates until the expiry of two years from the date of his appearing for and passing the preliminary examination for Titles.

Approval of Institutions

20. The Syndicate shall be empowered, after reference to the Board of Studies in Sanskrit, or in Arabic as the case may be, to approve for the purpose of the examination for certificates such institutions as in its opinion are duly qualified to provide efficient instruction in accordance with the syllabuses prescribed for the several optional subjects of the examination and also to withdraw such approval if at any time it thinks fit to do so.

Exemption

21. Applications for exemption from the production of the prescribed certificate shall be forwarded so as to reach the Registrar before October 1, preceding the examination.

Candidates may qualify for another optional

22. Candidates for certificates, who have passed the examination for Titles and have satisfied the Examiners in one optional subject, may present themselves for examination in another optional subject after an interval of two years without further attendance in an approved institution.

Duration of paper

23. In each subject for examination for certificates there shall be one paper of three hours' duration, which candidates shall be required to answer on the morning of the day following the final examination for Titles.

24. The correspondents of approved institutions shall submit every year to the Syndicate a full report on the working and progress of their respective institutions during the previous academical year. This report should reach the Registrar not later than July 1, and should be referred to the Boards of Studies concerned for remarks and advice as to further action, if any.

Classification of successful candidates.

25. A candidate shall be declared to have passed the examination if he obtains not less than forty per cent. of the marks. All the others shall be deemed to have failed in the Examination.

Successful candidates shall be arranged in three classes as follows :—

(*a*) Those who obtain not less than sixty per cent. of the marks shall be placed in the *first class* ; (*b*) those who obtain less than sixty per cent. but not less than fifty per cent. of the marks shall be placed in the *second class* ; and (*c*) the rest shall be placed in the *third class.*

(iii) DEGREE OF MASTER OF ORIENTAL LEARNING.

26. Every candidate for the Degree of Master of Oriental Learning shall have passed the Examination for Certificates of Proficiency in Oriental Learning and shall have thereafter pursued for two years an advanced course of study bearing upon the subject selected by him for the examination for that certificate.

27. Every candidate for the Degree shall be required to submit with his application—

(*a*) a certificate in the following terms from the head of an institution approved under Regulation 12 of this chapter for imparting instruction in, or from a member of the Boards of Studies dealing with the subject of the candidate's Certificate of Proficiency, or from some competent scholar recognized by the Syndicate:—

Form of Certificate.

I hereby certify that, to the best of my knowledge and belief,........has pursued, for not less than two years after qualifying for the Certificate of Proficiency in Oriental Learning

an advanced course of study, bearing upon the subject of his Certificate of Proficiency.

Station *Signature*

Date *with designation.*

and (*b*) an original thesis in English showing evidence of original work connected with the special subject in which he qualified himself for his certificate, the candidate indicating in a preface to his thesis, and specially in notes, the sources from which his information is taken and the extent to which he has availed himself of the work of others.

The application and thesis must be forwarded so as to be received by the Registrar between 1st November and 1st December of any year.

28. The thesis shall be referred by the Syndicate to a Board consisting of not more than three persons who at their discretion may require the candidate to appear before them to be tested orally with reference to the thesis (and to his facility in the use of the English Language). The Board shall report to the Syndicate the result of the examination of the thesis, and of the oral examination, if any, stating whether, in their opinion, the candidate is, by reason of his attainments, a fit person to receive the Degree of Master of Oriental Learning. The Syndicate shall publish the name of each successful candidate for the Degree with the title of his thesis.

CHAPTER LVIII (Regulations.)

DIPLOMA COURSES.

(1) Diploma in Economics.

Eligibility for Diploma

1. No candidate shall be eligible for the Diploma in Economics unless he has completed the prescribed course of study and has satisfied the examiners in the qualifying examination.

Course of Study

2. The course of study shall be :—

1. Economics.
2. Statistical Methods.
3. Recent Economic History and Economic Geography.
4. Rural Economics.
5. Social Economics (including Elements of Social Institutions).
6. A special subject in 4 or 5.

Every candidate shall also submit before 1st March a short thesis based on original enquiry on some problem of limited scope connected with either 4 or 5.

Qualification for admission

3. The course of study shall be open only to students who have qualified for a degree in this University or other recognised Universities.

Application

4. Applications to enter upon the course of study must reach the Professor of Indian Economics not later than the 15th June of each year.

Duration of Course

5. The course for the Diploma in Economics shall be normally for one year, but for part-time students it shall extend over two years.

Attendance

6. No student shall be admitted to the examination unless he or she has attended not less than three-fourths of the lectures and classes provided, and also produces the prescribed certificate.

Fee

7. A fee of Rs. 75 shall be paid to the University by each student on admission to the course, except in the case of part-time students who may pay the fee in two annual instalments of Rs. 37-8-0.

8. A candidate shall be declared to have passed the examination if he obtains not less than forty per cent. of the total marks in all the papers taken together. All other candidates shall be deemed to have failed in the examination. Successful candidates obtaining not less than sixty per cent. of the marks shall be declared to have passed with distinction.

Classification of successful candidates

9. Notwithstanding anything contained in the foregoing Regulations, it shall be competent to the Syndicate, by previous notice in the Gazette, to suspend for any year or any number of years the courses and examinations for the Diploma in Economics provided always that any student permitted to enter upon the courses, who qualified for the certificate prescribed in Regulation 6, shall be permitted to present himself for examination in accordance with the Regulations, at the earliest opportunity at which he would have been entitled to appear but for suspensory notice.

Syndicate competent to suspend course and examination

10. Notwithstanding anything contrary contained in this chapter, students who were admitted to the Diploma course in 1928-29 will be permitted to continue their course in 1929-30 under the old regulations.

(2) Diplomas in French and German.

11. No candidate shall be eligible for a diploma in French or German who has not undergone a prescribed course and satisfied the Examiners in the qualifying Examination.

Eligibility for Diploma

12. No candidate shall be admitted to the courses of instruction in French and German who has not passed the Matriculation Examination of this University or an examination recognised by the Syndicate as equivalent thereto.

Qualification for Admission

Course—for whom intended

13. The course which is a part-time course is primarily intended for such persons as are desirous of proceeding over-seas for higher studies, but shall be open to other persons approved by the Syndicate, provided they have satisfied the condition laid down in Law 12 of this Chapter.

Duration of the course

14. The course shall consist of three terms extending over one academic year. Applications for admission must reach the Registrar not later than the 15th June.

15. For the purpose of entrance to the course no previous acquaintance with the language is required and the candidates will be taught on a syllabus and text books prescribed from year to year.

Date of Examination

16. There shall be an examination held yearly in the first week of July or on such other dates as may be fixed by the Syndicate.

Attendance

17. No student shall be admitted to the examination unless he has attended not less than 75 per cent. of the total attendances at lectures and has produced a certificate from the lecturer certifying that his progress and conduct have been satisfactory. The examination shall consist of two papers, the first of three hours' and the second of two hours' duration. The first paper shall contain questions on text-books and grammar, and the second paper shall contain questions on translation from the selected language into English and *vice versa.*

Examination

Classification of successful candidates.

18. A candidate shall be declared to have passed the examination if he obtains not less than forty per cent. of the total marks in all the papers taken together. All other candidates shall be deemed to have failed in the examination. Successful candidates obtaining not less than sixty per cent. of the marks shall be declared to have passed with distinction.

Fee

19. The fee for the course in either French or German shall be Rs. 45 payable to the University on admission to the course, *provided that in the case of students reading for Honours Degree Examination in Arts and Science, other Degree Examinations (including Professional Degree Examinations), or the Diploma Examinations in Economics and Geography, and students in the Bachelor of Engineering class who have still to complete their practical course, preference being given to students reading for Honours, a concession fee which may be fixed by the Syndicate shall be levied; and provided the number of students admitted at the reduced rate in any particular year shall not exceed 50 per cent. of the total admissions in each language in that year.

Syndicate competent to suspend course and Examination

20. Notwithstanding anything contained in this Chapter, it shall be competent to the Syndicate, by previous notice in the Fort St. George Gazette, to suspend for any year or any number of years the course and examination for the Diploma in French or German.

(3) Certificate Course in Librarianship.

Eligibility for the certificate

21. No candidate shall be eligible for the Certificate in Librarianship unless he has completed the prescribed course of study and has satisfied the Examiners in the qualifying examination.

Course of study.

22. The course of study shall be:—

Part I—(Theory)—

1. *Laws of the Library Science including Library Organization.*

   (a) Library Planning.

   (b) Library Furniture.

   (c) Library Systems.

*To take effect from the Academic year 1934-35.

2. *Library Routine.*—
   (a) Ordering and Accessioning.
   (b) Library Records.
   (c) Issue Methods.
   (d) Reference work.
3. *Classification.*
   (a) Canons of Classification.
   (b) Colon Scheme—outline, with detailed application to selected subjects only.
4. *Cataloguing.*
   (a) Physical Form.
   (b) Internal Form.
   (c) Cataloguing Rules.

Part II—(Practical)—

1. Classification in accordance with the colon scheme.
2. Cataloguing in accordance with the cataloguing rules of the Madras University Library.

Qualification for admission

23. The course of study shall be open to candidates who have passed the Intermediate Examination in Arts and Science of this University or an Examination recognized by the Syndicate as equivalent thereto, provided, however, that this rule shall not apply to Librarians of five years' standing who are holders of completed S.S.L. Certificates or E.S.L. Certificates or Matriculates of this University.

Application

24. Applications for admission to the course must be submitted to the Registrar so as to reach him not later than the 31st of January of each year and admissions thereto shall be made by the Syndicate.

Duration of the Course

25. The course for the Certificate in Librarianship shall extend over a period of about three months, beginning in the month of March or April each year.

Admission fee

26. A fee of Rs. 20 shall be paid to the University by each student on admission to the course.

Scheme of examination

27. There shall be an examination at the end of the course consisting of two papers of three hours' duration each as follows:—

I. Theory	..	60	marks.
II. Practical	..	40	„
Total	..	100	„

Attendance

28. No student shall be admitted to the examination unless he has attended not less than three-fourths of the lectures and classes provided, and has produced the prescribed certificate.

Marks qualifying for pass and distinction

29. No candidate shall be declared to have passed the Examination unless he obtains not less than 35 per cent. of the marks in each part of the Examination, and not less than 40 per cent. of the aggregate marks.

Successful candidates who obtain not less than 60 per cent. of the aggregate marks shall be declared to have passed the Examination with distinction.

30. Candidates who fail at an examination may, without putting in any additional attendance at the course, appear for the examination in any subsequent year.

31. The course will not be conducted in any particular year if less than 15 students apply for admission to the course.

32. The Syndicate may, by notification in the Gazette, suspend the course for the Certificate in any year if it finds it necessary to do so.

(4) Diploma in Geography.

Eligibility for Diploma.

33. No candidate shall be eligible for the Diploma in Geography unless he has completed the prescribed course of study and has passed the qualifying examination and has satisfied the Examiners in a dissertation on an approved subject.

Qualification for admission.

34. No candidate shall be admitted to the course unless he has qualified for a Degree in Arts or Science of this University or a Degree of any other recognized University accepted as equivalent thereto by the Syndicate.

It shall be competent for the Syndicate to admit persons who have passed the Intermediate Examination with Geography as their optional subject, and Teachers in Schools or Colleges within the jurisdiction of this University who can produce evidence of sufficient knowledge of the subject which will enable them to profit by the course.

Application.

35. Applications for admission to the course must reach the Registrar not later than the 15th June of each year.

Course of Study.

36. The course of study shall be as follows:—

(1) The Physical Basis of Geography, including the elements of Meteorology, Oceanography, and Geomorphology (for Syllabus *vide* Appendix XV).

(2) General Regional Geography of the world, with a special study of two Continents of which Asia shall be one. (The other continent will be prescribed from time to time).

(3) A short course in one of the following:—

(a) Historical and Political Geography.

(b) Economic Geography.

(c) Bio-Geography and Anthropo-Geography.

(4) The use of instruments, map-making, map-reading and map-correlation, including practical work in class and field.

Every candidate shall also submit before the 15th May following the written and practical examination a short dissertation on a selected area in India.

Duration of the Course.

37. The course for the Diploma shall be normally one academic year—July to March.

Attendance.

38. No student shall be admitted to the examination unless he has attended not less than three-fourths of the lectures and other classes provided and has obtained the prescribed progress and attendance certificate.

Fee.

39. The fee for the course shall be Rs. 75 which shall be paid by every student on admission to the course.

Scheme of Examination.

40. The subjects and scheme of Examination shall be as follows:—

(1)	The Physical basis of Geography, including the elements of Meteorology, Oceanography and Geomorphology ...	1 paper of 3 hours.
(2)	General Regional Geography of the world, with special study of two continents—(1 General paper, 1 on Asia and 1 on the second continent selected) ...	3 papers of 3 hours each.
(3)	Optional subject—Historical and Political Geography *or* Economic Geography *or* Bio-Geography and Anthropo-Geography ...	1 paper of 3 hours.
(4)	Use of instruments, map-making, map-reading and map correlation. The test under this head shall be more or less practical in character ...	1 paper of 3 hours.
(5)	Dissertation ...	

Marks qualifying for a pass.

41. Candidates shall be declared to have passed the Examination, who have obtained not less than 50 per cent of the marks in each of any two of the papers and not less than 35 per cent. in each of the remaining papers, and 50 per cent in the dissertation. Candidates who fail to get the minimum in the dissertation may submit a fresh one later, within a prescribed period.

Provided, however, (*a*) a candidate who fails in Dissertation, and passes in the written examination shall be regarded as having failed in Dissertation only and shall be permitted to submit a fresh Dissertation;

(*b*) a candidate who has not submitted a Dissertation shall be considered to have failed in Dissertation only; and

(*c*) a candidate who fails in the written examination only, shall appear only for the written examination.

42. Successful candidates who obtain not less than 60 per cent of the aggregate marks shall be declared to have passed the examination with distinction.

43. It shall be competent to the Syndicate to suspend the course in any year or for a number of years.

(5) Diploma in Indian Music.

Eligibility for Diploma.

44. No candidate shall be eligible for a Diploma in Indian Music who has not undergone the prescribed course and has not passed the qualifying examination.

Qualification for admission.

45. No candidate shall be admitted to the course unless he has been declared eligible for admission to a University course of study or has passed the Matriculation examination or an examination recognized by the Syndicate as equivalent thereto, and has already received sufficient training in Indian Music to enable him to benefit by the Diploma course.

Course for whom intended.

46. The course will be a part-time course and is primarily intended for such persons as desire to attain high proficiency in Indian Music.

Application.

47. Applications for admission to the course must be received in the Registrar's Office before the 15th June each year. Applicants may be subjected to a test before selection.

Duration of the Course and fee.

48. The course shall ordinarily be for one academic year distributed over three terms, July-September, October-December, and January-March. The fee for the course shall be Rs. 30, payable on admission.

Course of Study

49. Instruction will be imparted in the Theory and Practice of Music, Vocal, Violin and Veena.

The course of study shall be prescribed from time to time. Candidates shall take either Vocal or Instrumental Music (Veena or Violin) for the practical course.

Attendance.

50. No candidate shall be admitted to the examination unless he has kept not less than three fourths of the attendance and produced the required certificates of attendance and progress.

Scheme of Examination.

51. The examination shall be both written and practical. There shall be a theory paper of 2 hours' duration and a practical examination. At the practical examination, candidates will be expected to sing or play any of the ragas prescribed as well as compositions in them in any of the talas prescribed.

Marks qualifying for a pass.

52. A candidate shall be declared to have passed the examination if he obtains not less than 35 per cent. of the marks in theory, 45 per cent. of the marks in the Practical Examination and 50 per cent. of the marks in the aggregate.

Successful candidates obtaining not less than 60 per cent. of the marks in the Practical Examination and 75 per cent. of the marks in the aggregate shall be declared to have passed with distinction.

53. It shall be competent for the Syndicate to suspend the course in any year or for a number of years.

CHAPTER LIX.

Transitory Regulations

Candidates who have passed one Division of B A. (old) to qualify for the degree

1. (i) Candidates for the Degree of Bachelor of Arts who have passed at least one of the divisions of the B.A. Degree Examination under the Old By-laws may, on the recommendation of the Syndicate be permitted to appear for the B.A. Degree Examination under the New Regulations in the Parts or Groups corresponding to the divisions of the B.A. Degree Examination under the Old By-laws which they have not passed. Orders of exemption granted under this regulation shall be permanent.

(ii) For the purposes of the foregoing regulation the following three papers in each of the sub-division of Group (vi) (Languages other than English) shall be taken as the equivalent of Division II under the Old By-laws:—*Sanskrit*—Books of the Later Period (first paper), Books of the Later Period (second paper), History of Sanskrit Literature; *Urdu*—Prose Books, Poetry, Composition; *Arabic* or *Persian*—Prose Books, Poetry, Translation; a *Dravidian Language* or Oriya or Marathi—Set Books and History of Literature, Composition; *Greek* or *Latin*—Set Books and History of Literature, Set Books and History of Literature, Prose, Composition; *French* or *German*—Set Books and History of Literature, Set Books and History of Literature, Composition; *Hebrew*—Set Books, Set Books, translation. Candidates failing to obtain one-third of the marks in these papers taken together shall not pass.

(iii) Applications for admission to the examination, together with the necessary exemption orders or applications for exemption must be submitted by the date specified for the submission of applications by candidates for the B.A. Degree Examination under the New Regulations.

(iv) The fee for admission to the examination in both parts shall be Rs. 40: in either Part I or Part II (except in Group (vi) Rs. 25; and in Part II, Group (vi) Rs. 20.

Candidates with F.A. four term certificates to appear for Intermediate

2. A student who has qualified for the four term certificates required to be produced by candidates for the First Examination in Arts under the existing by-laws and regulations shall be allowed to appear for the Intermediate Examination under the new regulations on the production of a certificate or certificates of having attended an additional year in an affiliated college provided he offers for the examination the following optional groups:—i (*a*) Mathematics, (*b*) Physics, (*c*) Chemistry, or ii (*a*) Natural Science, (*b*) Physics, (*c*) Chemistry. In case he offers any three of the subjects of Groups iii, the production of a certificate or certificates of having attended an additional year shall not be required.

Transitory Regulations governing Examinations for Medical Degrees

3. (i) Candidates for the M.B. & B.S. Degree who have completed the course of study for the Second M.B. & C.M. Degree Examination shall be permitted:—

(1) if they passed the Second M.B. & C.M. Degree Examination, to proceed with their studies for the degree.

(2) if they have not appeared at or have failed to pass the Second M.B. & C.M. Degree Examination, to appear for the Second M.B. & B.S. Degree Examination without the production of further certificates and to be examined in all subjects prescribed for the examination other than Materia Medica, and in the event of passing the examination therein to proceed with their studies for the degree;

provided that no such candidates shall be considered qualified for the M.B. & B.S. degree unless they produce the certificates required by the regulations of having completed at some time during their course in a college of medicine affiliated to the University the necessary course of study in Materia Medica and pass the examination held

in this subject according to the regulations for the M.B. & B.S. degree

(ii) The revised Regulations for the M.B. & B.S. and the L.M. & S. degree sanctioned in G. O. No. 668, Home (Education), dated May 27, 1918, shall have retrospective effect—

(*a*) for the benefit of candidates for a degree in Medicine who, during the year 1917-18, were engaged in the study of Medicine in a college affiliated to this University;

and

(*b*) until and including the examination held in April, 1924, for the benefit of candidates who have taken or have qualified for the Degree of Licentiate in Medicine and Surgery and who passed the Third M.B. & B.S. or the Third M.B. & C.M. Degree Examination under preceding Regulations.

They shall be exempted as candidates for the M.B. & B.S. degree from re-examination in any subject or subjects in which they have at any time gained total marks qualifying for such exemptions under the revised Regulations.

(iii) A Licentiate in Medicine and Surgery who graduated under the Regulations prior to April, 1914, shall be permitted to appear for the M.D. or M.S. Degree Examination subject to the following provisions:—

(1) that the candidate produces satisfactory evidence of having been regularly engaged in the practice of Medicine for a period of not less than seven years subsequent to obtaining the L.M. & S. degree;

(2) that the candidate produces satisfactory evidence of having taken an approved course or courses or of having held a Medical or Surgical appointment at one or more of the hospitals attached to a College of Medicine

affiliated to this University, for a period of not less than one year immediately preceding the date on which he applies to be admitted to the examination for the M.D. or M.S. degree.

(3) that the candidate produces testimonials from two Doctors of Medicine, or two Masters of Surgery or two Fellows of the University, certifying that he is in habits and character a fit and proper person to receive the degree.

(4) that the candidate produces a certificate signed by the President of the Faculty of Medicine and by the Medical Officer in charge of the Hospital in which he has taken the course at which he has held an appointment as approved in para. 2 above, that the work in which he has been specially engaged in the said hospital is a suitable preparation for the particular branch or subjects of the M.D. or M.S. Degree Examination respectively for which he selects to appear.

(iv) The Second paragraphs of Regulations 12 and 18 of Chapter XXVI of Vol. I of the Calendar for 1921, which were rescinded at the special meeting of the Senate held on 21st January 1921, shall remain in force for the benefit of candidates for a Degree in Medicine who previous to the year 1921-22 were engaged in the study of medicine in a college affiliated to this University, but had not completely passed the First and Second M.B. & B.S. or L.M. & S. Examinations.

(v) The Regulations printed in Volume I of the Calendar for 1924 relating to the courses of study and examinations for the M.B. & B.S. Degree or L.M. & S. Degree shall remain in force for the benefit of candidates who will have entered upon their courses of study prior to July 1926 subject to such alterations in the curricula of studies as may be made and prescribed from time to time.

(vi) Candidates, who appear for the 2nd M.B. & B.S., or the L.M. & S. Examination in April 1927 for the first time, may be permitted to take Anatomy, Physiology and Organic Chemistry in April 1927, and Materia Medica

in April 1928 or a subsequent year at the 3rd M.B. Examination. They may be declared to have passed:—

(1) in the three subjects under the 2nd M.B. & B.S., or L.M. & S. Examination, if they obtain marks as follows:—

Anatomy, Physiology, and Organic Chemistry in April 1927

Anatomy		Physiology		Organic Chemistry	Total
Written	Practical and Oral	Written	Practical and Oral		
100	100	100	100	100	500
50 for M.B. 40 for L.M. & S.	50 for M.B. 40 for L.M. & S.	50 for M.B. 40 for L.M. & S.	50 for M.B. 40 for L.M. & S.	... M.B. or L.M. & S. 33	250 for M.B. 200 for L.M. & S.

(2) in Materia Medica under the 2nd M.B. & B.S., or the L.M. & S. Examination and the two subjects under the 3rd M.B. & B.S., or the L.M. & S. Examination, if they obtain marks as follows:—

Materia Medica, Pathology and Bacteriology and Hygiene in April 1928

Materia Medica	Pathology and Bacteriolgy		Hygiene		Total
	Written	Practical and Oral	Written	Practical and Oral	
100	100	100	100	50	450
M.B. or L.M. & S. 33	50 for M.B. 33 for L.M. & S.	50 for M.B. 33 for L.M. & S.	50 for M.B. 33 for L.M. & S.	25 for M.B. 17 for L.M. & S.	225 for M.B. 180 for L.M. & S.

(vii) Candidates for the M.B. & B.S. Degree who obtain the L.M. & S. Degree shall be admitted to Part II of the Final M.B. & B.S. Degree Examination without the production of an additional certificate of attendance.

(viii) A candidate for the Final Examination in Medicine who obtains not less than 40 per cent. of the marks in (1) Ophthalmology and (2) Medical Jurisprudence, and not less than 40 per cent. in the written part of each of the remaining subjects, and not less than 40 per cent. in clinical and oral Medicine taken together and not less than 40 per cent. in each of the following (*a*) Clinical Surgery, (*b*) Operative and Oral Surgery taken together, and (*c*) Practical and Oral Midwifery taken together, shall be declared to have qualified for the L.M. & S. Degree.

Candidates who fail, but obtain passing mark for the L.M. & S. Degree in all the parts of any particular subject shall be exempted from re-examination in that subject.

A candidate for the Final M.B. & B.S. Degree Examination shall be declared to have passed the Examination if he obtains not less than one half of the marks in (1) Ophthalmology and (2) Medical Jurisprudence, and not less than one half of the marks in the written part of each of the remaining subjects, not less than one half of the marks in clinical and oral medicine taken together and not less than one half of the marks in each of the following:—

(a) Clinical Surgery.

(b) Operative and Oral Surgery taken together.

(c) Clinical, Practical and Oral Midwifery taken together.

Candidates prevented from attendance at Convocation of 1916 by cyclone

4. Candidates for degrees at the Convocation held on November 23, 1916, who were prevented from attendance thereat by the conditions of weather then prevailing, may, with the permission of the Syndicate, and without payment of the fee of rupees twenty-five prescribed by Regulation 68 (Calendar 1918), be admitted to their several degrees *in absentia* at any subsequent Convocation: such candidates for degrees may also with the further permission of the Syndicate and notwithstanding any provisions to the contrary in the regulations, appear for any examination open to graduates of the University for which they are otherwise qualified, as if they had actually received their diplomas and had been admitted to their degrees in Convocation.

Old Regulation 210 (Calendar 1918) to remain in force until the first examination for B.Sc. (Hons.)

6. Regulation 210-B (Calendar for 1918) shall remain in force, for the benefit of candidates desiring to qualify for the M.A. Degree in Physical or Natural Science, up to and including the year 1934-35, and that the candidates shall take the same papers in the corresponding Branch of the B.Sc. (Honours) Degree Examination of the year.

B. A. (Hons.) in Sc. Branches permitted to study in an additional Sc. Branch:

6-A. A candidate who has already qualified for the Degree of Bachelor of Arts (Honours) in Branch ii-A. (Physics), or ii-B (Chemistry), or in any one of the subjects of Branch iii (Natural Sciences) as the main subject, may further qualify for that degree in an additional allied Science Branch as the main subject.

A candidate desirous of coming under the provisions of the above regulation shall submit his laboratory notebook containing the record of his practical work performed during the period of study for the Examination (duly certified by his Professor) as a *bona fide record* of work

done by him. The laboratory note-book shall be submitted on the first day of the Practical Examination to the Examiners engaged in conducting the Examination.

He shall be exempted from examination in the subsidiary subject, provided it was the main subject in which he previously qualified for the Honours Degree.

A candidate coming under the provisions of this Regulation shall be declared to have passed the examination if he has obtained not less than 40 per cent. of the total marks and 30 per cent. of the marks in each division of the examination. The Divisions shall be as follows:—

(*a*) Written examination in the Main subject.

(*b*) Practical examination and laboratory note-books in the Main subject.

B.A.'s to qualify for Honours under Transitory Regulations

7. A candidate for the B.A. (Hons.) Degree who has passed the B.A. Degree Examination shall be permitted to appear for the B.A. (Hons.) Degree Examination after a two years' course, provided he has passed the B.A. Degree Examination in the subjects for which he desires to appear. Each such candidate shall forward so as to reach the Registrar before the 20th March preceding the Examination, certificates, in the form hereinafter prescribed, from the head of an affiliated college to the effect that he has attended an affiliated college for a period of at least two years after passing the B.A. Degree Examination, that he has completed the course of instruction in the subject in which he proposes to appear and that his conduct and progress have been satisfactory. He shall be exempted from passing the preliminary examination and if he appears for the examination in Branch (ii) or (iii), he shall be exempted from examination in the subsidiary subject, and shall be

credited with the percentage of marks which he obtained in that subject in the B.A. Degree Examination.

7-A. A Candidate who has been awarded the B.A. Degree on the results of the B.A. (Honours) Degree Examination, shall be permitted to appear for the M.A. Degree Examination in the same subject in any subsequent year without the production of further certificates of attendance.

He shall also be exempted from examination in the subsidiary subject provided he has obtained not less than 30 per cent. of the marks in that subject in the Honours Examination.

B.A.'s qualified for M.A. Degree under Old Regn. 210-B

8. A graduate in Arts who has qualified for the M.A. Degree under former Regulation 210-B, I (Calendar, 1918), in Branches of the B.A. (Honours) Degree Examination, may, after a lapse of five years from the date of his having passed the Intermediate Examination, proceed without further examination to the Degree of Master of Arts on payment of a fee of Rs. 25.

B.A. (Hons.) Examinations in Branches ii and iii, how long held

9. The examination for the Degree of Bachelor of Arts (Honours) in Branches ii and iii under the regulations previously in force (Calender for 1918) shall be held under those regulations up to and including the year in which the first examination is held for the Degree of Bachelor of Science (Honours) in the corresponding Branches ii to vi.

When examination under Revised Oriental Title Regulations to begin

10. (i) From 1919 every year in the month of April, there shall be an examination for Titles in Oriental Learning, comprising both the preliminary and final parts, under the revised regulations. No examination under the existing regulations shall be held after the year 1918.

(ii) Candidates for Titles in Oriental Learning who

How to apply the new Regulations to candidates who began courses under the old Regulations

(1) are able to produce certificates required under the existing Regulations of having completed at any time before the examination of 1918 the courses prescribed under those Regulations, or

(2) after completing three years of such courses by the end of academic year 1917-18 continue their studies satisfactorily for another year under the revised Regulations and produce certificates to that effect from heads of approved institutions, or

(3) are exempted by the Senate from the production of the prescribed certificates,

shall be permitted to appear for the examination in April, 1919, or any subsequent year and shall be allowed to sit for both the preliminary and final parts thereof. They shall be declared successful and eligible for receiving the diploma, if they obtain not less than forty per cent. of the total marks in all the papers relating to both the preliminary and final parts taken together; provided that, from the year 1920 those who obtain not less than forty per cent. of the total marks in the papers of the preliminary part alone shall be declared to have passed the preliminary examination and shall be admitted without any fresh certificate to the final examination in any subsequent year. Such successful candidates in both the parts taken together or in the final part shall be ranked and arranged in three classes as indicated in Regulation 14 of Chapter LVII.

Other candidates who have satisfactorily completed two years of the courses prescribed under the existing Regulations by the end of the academic year 1917-18 shall be eligible for the certificate prescribed under Regulations 4 and 5 of Chapter LVII and may enter upon the course prescribed for the final examinations in any corresponding branch of study under the revised Regulations. Such candidates shall be admitted to the preliminary examination

in April, 1919, and, if successful thereat, to the final examination in any subsequent year on the production of the prescribed certificate.

Other candidates who have satisfactorily completed one year of the course prescribed under the existing Regulations shall be deemed to have completed one year of the course in the corresponding branches of study under the revised Regulations.

Holders of Titles under old Regulations can appear for Examination for certificates

(iii) Holders of Titles in Oriental Learning under the existing Regulations shall, at any time after the award of the diploma, be permitted to appear at the examinations held under the revised Regulations as candidates for certificates of proficiency in modern methods of study as applied to Oriental Learning. Such candidates shall not be required to produce the prescribed certificates of attendance at an approved institution.

Candidates for Vidvan title who passed Preliminary Examination in 1919

(iv) Candidates for the Vidvan title who passed the Preliminary Examination with Sanskrit held in April, 1919, shall take their Final Examination in accordance with the regulations in force in April, 1919.

(v) Notwithstanding anything to the contrary contained in Regulation 11 of Chapter LVII and until the commencement of the academic year 1927-28, heads of institutions approved with reference to the Vidvan course mentioned under 2 (b) of Chapter LVII shall be empowered to permit any student to enter upon that Vidvan course in their respective institutions, who in their opinion is fit to do so.

(vi) Notwithstanding anything to the contrary contained in Regulation 11 of Chapter LVII and until the date of the first departmental examination qualifying for admissions to the '*Siromani*' courses *in Jyotisa* and *Ayurveda* and for two years thereafter, heads of institutions approved with reference to Branch VI or Branch VII of the Siromani

course, shall be empowered to permit any student to enter upon that course in their respective institutions, who in their opinion is fit to do so.

(vii) In the case of students admitted prior to the commencement of the academic year 1928-29 into institutions approved for the Vidvan Course in Tamil alone, the admission test referred to in Law 11 of Chapter LVII shall not be insisted upon.

Transitory Regulation for the B.Sc. Ag. Degree Examination

11. Notwithstanding any provision to the contrary in the Regulations for the Degree of Bachelor of Science in Agriculture, candidates for the Degree who shall satisfy the Syndicate that prior to the affiliation to University of a College of Agriculture they have undergone instruction in and have completed the course of study prescribed for Part I of the examination for that degree, and have on the recommendation of the Syndicate been exempted by the Senate from the production of the certificates required for that part, shall be permitted to appear for both Parts of the examination for the degree in the same year, provided that they produce the certificates required for Part II of the examination.

Any such candidate who fails in not more than one subject in Part I of the examination and who obtains not less than 50 per cent. of the aggregate marks in that part shall be exempted from re-examination in the remaining subjects of that part and may appear again in any year for re-examination in the subject in which he has failed without the production of a further certificate, but shall not be eligible for the degree until he has passed the remaining subject of Part I in addition to Part II of the examination.

Any such candidate who fails in both parts shall be permitted to appear again for the examination in both parts on the production of a certificate of having attended an affiliated college for an additional year of instruction.

Any such candidate who passes in Part II but fails in Part I of the examination shall not be required to present himself again for examination in Part II, but he shall not

be eligible for the degree until he has passed Part I in accordance with Regulation 9 (*a*) of Chapter LI—Part I—Vol. I of 1931-32.

Candidates under the old Regulations permitted to appear for Intermediate under these Regulations till 1931

12. Candidates for the Intermediate Examination who commenced their courses of study for that Examination under the Regulations in force prior to the academic year 1927-28 shall be permitted to complete the Intermediate Examination under the above-mentioned Regulations, subject to the proviso that after the examinations of the year 1931 no candidate will be permitted to avail himself of this privilege and all candidates for the Intermediate Examination will thereafter be required to sit for the Examination under the Regulations then in force.

13. On and after the 1st of June 1928 candidates for the Intermediate Examination, who completed the first year's course of study prescribed for the Examination under the Regulations in force immediately prior to the academic year 1927-28 and were unable to complete the course under those Regulations will be permitted to complete the second year course of study by attending classes under the new Regulations and to appear for the Examination under the new Regulations, subject to the proviso that this Regulation will remain in force only until the expiry of the Examinations of 1931 and that thereafter no candidate will be permitted to avail himself of the benefit of these Regulations.

How Inter. Candidates of old Regulation can appear for B.A. under New Regulation.

14. Candidates for the B.A. Degree Examination who have completed the Intermediate Examination under the Regulations in force prior to 1927-28 shall be permitted to appear for the B.A. Degree Examination under the New Regulations under the following conditions:—

They shall be exempted from the examination in language under Part II, but shall be required to take five papers in English under Part I, according to the Old Regulations, under Part III they shall take the papers set under the New Regulations.

For purposes of this Regulation the scheme of examination for English (under the Old Regulations) shall be as follows:—

		Hours.
Shakespeare	..	3
17th and 18th Century Prose	..	2½
Modern Poetry	..	3
19th Century Prose	..	2½
Composition	..	3

The above Regulation shall be in force till the September Examinations of 1935. Thereafter, candidates will have to appear for the examination under Regulations then in force.

Under Shakespeare, the Old Regulation and the Transitory Regulation candidates will study only the three plays prescribed under the New Regulations and not the life and work of the author as under old Regulations.

The question papers shall be common to all candidates in Shakespeare and Modern Poetry and the papers in Prose and Composition shall be different.

Extension of B.A. Degree Examination under the old Regulations.

15. Candidates for the B.A. Degree Examination who completed their courses of study and earned the prescribed certificates of attendance and progress for two years under the Regulations in force prior to the academic year 1929-1930, shall be permitted to appear for the B.A. Degree Examination under the same Regulations up to and inclusive of the examination to be held in September 1935. Thereafter every candidate shall be required to sit for the examination under the Regulations then in force.

Candidates for B.A. who completed 1st year's course under the old Regulations to complete the course under the existing Regulations.

16. Candidates for the B.A. Degree Examination, who completed the first year's course of study prescribed for the examination under the Old Regulations in force immediately prior to the academic year 1929-30 and were unable to complete the course under those Regulations shall be permitted to complete the second year course of study by attending classes under the New Regulations. They shall, if they do not desire to appear for the examination under the New Regulations with all the three Parts have the option of coming under the provisions of Transitory Regulation 15 of Chapter XLV. (Vol. I, 1929-30) ;

(2) that the Transitory Regulation come into force forthwith and remain in force only until the close of the B.A. Degree Examination of 1935.

Duration of the M.A. Degree under Old Regulations.

17. The Examination for the M.A. Degree under the Regulations in force in 1929-30, (*vide* Volume I Calendar, 1930-31—pages 316-320—Regulations 19 to 22 inclusive) shall be held up to and including the academic year 1934-35.

The candidates for the examination shall take the B.A. (Honours) Degree Examination either under the Old or New Regulations in 1934 and *only* under the New Regulations in 1935.

Extension of B.Sc. Degree Examination under the Old Regulations.

18. The B.Sc. Degree Examination under Regulations in force prior to 1929-30 shall be held in the years 1931 and 1932, for the benefit of those candidates who have undergone the course of study under those Regulations. Such candidates shall, however, have the option of appearing for the examination under the Old or under the New Regulations. The option once exercised shall be final.

Such candidate shall also be exempted from the production of a certificate of having attended an additional

year of instruction in the subjects in a college affiliated to or recognised by this University.

Graduate in Honours may proceed to M.A. on payment of Rs. 25.

19. Upon payment of a fee of Rs. 25 a graduate in Honours may, without further examination, proceed to the Degree of M.A. after the lapse of five years from the date of his having passed the Intermediate Examination in Arts and Science.

This Regulation shall remain in force till the end of the academic year 1938-39, for the benefit of candidates who qualify for the B.A. (Honours) Degree.

20. Candidates for the Intermediate Examination who completed their courses of study for that examination under the Regulations in force prior to the academic year 1927-28 but who did not pass the Examination either in whole or in part under those Regulations shall be permitted to sit for the Examination under the New Regulations subject to the following provisos:—

(*a*) A candidate who has passed Part I of the Examination under the Old Regulations shall be considered to have passed Parts I and II under the New Regulations.

(*b*) A candidate who has passed Part II of the Examination under the Old Regulations shall be considered to have passed Part III under the New Regulations.

(*c*) A candidate who has failed in both Parts of the Examination under the Old Regulations or who did not sit for the Examination under the Regulations in force prior to 1927-28 though duly qualified for the prescribed annual certificates of attendance, etc., shall be required to pass in all the three Parts of the Examination under the New Regulations, provided that he selects for Part II of the Examination under the New Regulations the same language in which he appeared or was

to have appeared for Part I-B of the Examination under the Old Regulations, and for Part III of the Examination under the New Regulations the same subjects in which he appeared or was to have appeared for Part II of the Examination under the Old Regulations.

21. The B.A. (Honours) Degree Examination under the Regulations in force for the examination of 1933 shall also be held in March 1934 for the benefit of the candidates who withdrew from the examination in March 1933. They shall offer the same special subjects as they offered for the examination in 1933. The question papers shall, wherever possible, be the same as for the New Regulations.

22. Notwithstanding anything contained in Regulation 45 of Chapter LVIII, it shall be competent for the Syndicate to admit to the Diploma Course in Indian Music in 1933—1934, women students who have not been declared eligible for admission to University Courses of Study, provided they possess sufficient knowledge of English and proficiency in Music to be able to follow the course.

CHAPTER LX.

*ADMISSION TO COURSES OF STUDY AND EXAMINATIONS.

Ordinance

Admission to courses of study and examinations.

1. The conditions under which students may be admitted to the Degree or Diploma Courses and to the Examinations of the University shall ordinarily be those laid down in the regulations for the time being.

Ordinance

2. No candidate shall be admitted to any examination until he has been registered. A candidate shall be registered afresh on each occasion on which he presents himself for

*Regulations under the University Act of 1904 (now repealed) which so far as they may be applicable, continue to be in force. This Chapter has been partially revised (*Vide* page 23).

examination and no candidate shall be registered until he has paid the fee prescribed.

Ordinance
Refund of fee

3. No candidate for examination shall be entitled to a refund of any fee he may have paid, but the Syndicate may at its discretion grant such a refund in any particular case or class of cases.

Ordinance
Qualification of candidates

4. Each candidate for an examination shall produce such evidence as the Syndicate may direct of having previously passed the qualifying examination prescribed by the Laws, if any. He shall also unless otherwise exempted, produce in the prescribed form the necessary certificate or certificates required by the Laws of the University.

Ordinance
Exemption from attendance certificates

5. The Syndicate shall have the power to exempt from the production of the prescribed annual certificate of attendance for the Matriculation Examination (*a*) Candidates who hold completed School-leaving Certificates issued under the authority of the Government of Madras or such other authority as may have been accepted by the Syndicate, provided that their appearance for the Secondary School-leaving Certificate Examination was at least three years prior to the date of their proposed appearance at the Matriculation Examination, (*b*) Candidates who, during the previous three years, have been educated privately or in schools outside the territorial limits of the Madras University as defined in the Indian Universities Act, 1904, provided that in each case they produce satisfactory evidence that they are of good character and that they have received suitable instruction.

Applications for exemption under this Ordinance must be forwarded so as to reach the Registrar before the 1st October preceding the examination.

6. In the case of a student who has failed to keep during the year three-fourths of the attendances prescribed by the institution of which he is a member and is therefore unable to produce his annual certificate of attendance, the Syndicate may grant exemption from its production provided that—

Ordinance

(1) the shortage of attendance does not exceed five days;

(2) the case is recommended by the Principal of the College of which the student is a member;

(3) the Syndicate considers that the reasons given for failure to secure the prescribed attendance are satisfactory.

7. The Syndicate shall have the power to grant exemption from the production of the annual certificates of attendance in the following cases, to a student studying in a College in which the language in respect of which exemption is sought is not taught, provided that it is satisfied—

Ordinance

(1) as to the reasons assigned by the student for not studying in a college where the language in question is taught, and

(2) as to the arrangements made for instruction being received by the student in that language—

Name of the Examination.	*Part or Group for which exemption may be granted.*
(a) Intermediate (Old Regulations)	Part I-B.
(b) Do. (New do.)	Part II.
(c) Do. (Do. do.)	One of the languages in Group B of Part III.
(d) B. A. (Old Regulations)	Alternative language in Group (iv)
(e) Do. do.	do. „ (v)
(f) Do. do.	Group (vi) under Part II.
(g) Do. (New Regulations)	Part II.
(h) Do. do.	Group (v) of Part III.

8. The Syndicate shall have the power to grant exemption from the production of the first year
Ordinance
certificate of attendance for Part III of the Intermediate Course to students who, having passed the Intermediate Examination with one set of optional subjects under Part II of the Old Course *or* Part III of the New Course, desire to reappear for the Examination in Part III of the course presenting a new set of optional subjects, provided that the Syndicate is satisfied that the course prescribed in the new set of subjects selected has been covered by them, and that they have attended a college for a further period of not less than one year.

9. The Syndicate shall have the power to grant exemption from the production of the first year
Ordinance.
certificate of attendance for Part II of the B.A. Degree Examination, to students who, having passed Part I, and failed in Part II on at least two occasions in one set of optional subjects, desire to present a new set of optional subjects under Part II, provided that the new subjects do not require a course of laboratory training.

10. The Syndicate shall have the power to grant exemption from the production of either
Ordinance.
or both of the annual certificates of attendance required by candidates for the Oriental Title Examinations, provided that the candidate—

(1) is at the time of the examination at least twenty-five years of age; and

(2) is certified by the head of an approved institution, or by a member of the Board of Studies dealing with the subject or language offered for the examination or by a Mahamahopadhyaya or a Shamsul-ul-ulama or any other competent scholar recognised by the Syndicate, to be qualified by his attainments to appear for the examination.

Applications for exemption under this Ordinance must be forwarded so as to reach the Registrar before the 1st October preceding the examination.

11. The Syndicate shall have the power to grant exemption in the case of a candidate for the Final M.B. & B.S. Degree Examination who having failed in the examination is unable to produce an additional certificate of attendance for six months in one or more subjects of the examination in accordance with the Regulations, provided that he is recommended for exemption by the Principal of a Constituent or an Affiliated Medical College.

Ordinance.

12. The Syndicate shall have the power to grant exemption from the production of the required attendance certificates, to candidates for the Degree of Bachelor of Arts who have passed at least one of the Divisions of the B.A. Degree Examination under the old By-laws and permit them to appear [in accordance with the provisions of the Transitory Regulations] for the B.A. Degree Examination under the New Regulations in the Parts or Groups corresponding to the Divisions of the B.A. Degree Examination under the old By-laws which they have not passed.

Ordinance

13. The Syndicate shall have the power to grant exemption from the production of an annual certificate of attendance (1) to students who have been attending classes opened in a college with the sanction of the Syndicate pending recognition or affiliation, (2) to students who are unable to obtain the necessary attendance certificate owing to the college of which they are members having to close for a time for reasons recognised by the Syndicate as satisfactory.

Ordinance

Provided however the Syndicate shall have the power to waive the prescribed exemption fee in the case of students in Colleges which were permitted in 1926-27 and 1927-28, to open classes in certain subjects under the remodelled Intermediate Courses pending affiliation or recognition under Sub-Clause (1) of this Ordinance.

14. The Syndicate shall have the power on the recommendation of the Academic Council to exempt by a special order and on such conditions as the Syndicate may think fit a candidate for a

Ordinance

University Examination from being an enrolled member of a constituent or of an affiliated college.

Ordinance
Exemptions permanent

15. Orders of exemption granted under this Chapter shall be permanent.

Ordinance
Recognition of Examinations.

16. The Syndicate shall have the power to recognise the examinations of other Universities which correspond to the Intermediate Examination of the University of Madras, as qualifying for admission to the B.A. B.Sc., B.A. (Honours), B.Sc. (Honours), M.B. & B.S., B.E., and B.Sc., Ag. courses of study in a constituent or an affiliated college.

17. The Academic Council shall have the power to recognise as qualifying for admission to courses of study leading to Degree Examinations other than those specified in Ordinance 16 of this Chapter, the degrees of other Universities.

The examinations of the Andhra University shall be recognised as equivalent to the corresponding examinations of this University for purposes of qualifying for admission to the B.A. (Honours), B.E., B.Sc., Ag. and B.L. Degree courses of study of this University. Such recognition shall be granted till the end of the academic year 1932-33 or till the courses are opened in the Andhra University, whichever is earlier.

The Examinations of the Annamalai University shall be similarly recognised as qualifying for admission to the B.A., B.A. (Honours), (only for such branches as are not provided in that University), B.Sc., B.Sc. Ag., B.L., and Medical Courses of this University, such recognition being granted till the end of the academic year 1934-35 or till the courses are opened in the Annamalai University whichever is earlier.

CHAPTER LXI (Regulations).

Time-tables for Examinations

Time-tables and subjects for examinations.

The order of time and subjects in which the several examinations shall be conducted shall be as set forth in the following tables and the number of marks assignable to each subject shall be as therein specified:—

Provided always

(1) that, in the event of no candidate appearing for any paper in the B.A. (Honours) Degree Examination, the time-tables for that examination may be altered by the Syndicate, but the order of the papers shall, so far as possible, be maintained;

(2) that, in the case of Part II of the B.A. Examination held in April and the B.Sc. Examination, the first day of the examination in each of the optional groups or branches shall be determined annually by the Syndicate and shall be notified in the *Gazette* in the month of February;

(3) that, unless otherwise determined by the Syndicate the Practical, Clinical and Oral Examinations shall follow the Written Examinations.

(4) that the time-table for the Vidvan Examination as may be annually determined by the Syndicate shall be duly notified in the *Gazette* in the preceding February.

MATRICULATION EXAMINATION

Days	Hours	Subjects	Marks	
First day	10—12-30 2—4-30	English—1st paper ... ... Do. 2nd paper	75 75	150
Second day	10—1 2—4-30	Arithmetic and Algebra ... ... Geometry	80 70	150
Third day	10—1 2—4	Second Language ... ... History		75 50
Fourth day	10—1 2—4	Elementary Science ... ... Geography		75 50

INTERMEDIATE EXAMINATION IN ARTS AND SCIENCE

(REVISED REGULATIONS).

PART I—ENGLISH.

Days	Hours	Subjects	Marks
First day ...	10—1	Poetry	70
Second day...	10-12-30	Prose	60
Third day ...	10—1	Composition	70

PART II—A SECOND LANGUAGE.

Days	Hours	Subjects	Marks
Fourth day.	10—1	Text books, Grammar, etc., for Sanskrit, Arabic, Persian and Hebrew ...	60
	10—12	Text books, Grammar, etc., for other languages	40
	2—4	Composition and Translation for Sanskrit, Arabic, Persian and Hebrew ...	40
	2—5	Composition and Translation for Indian languages and Translation in other Languages viz. Greek, Latin, French and German. ...	60

PART III—GROUP A.

Days	Hours	Subjects	Marks
Fifth day ...	10—12 2—4	Mathematics—First paper ... ... Do. Second paper... ...	50 50
Sixth day ...	10—12 2—4	Natural Science—First paper ... Do. Second paper ...	50 50
Seventh day.	10—12 2—4	Physics—First paper ... ... Do. Second paper	50 50
Eighth day. .	10—12 2—4	Chemistry—First paper ... ... Do. Second paper	50 50
Ninth day ...	10—12 2—4	Geography—First paper ... ... Do. Second paper	50 50

GROUP B.

Days	Hours	Subjects	Marks
Tenth day ...	10—12 2—4	Ancient History I—History of Greece ... Do. II—History of Rome ...	50 50
Eleventh day	10—12 2—4	Modern History I—(History of Great Britain and Ireland—Political and Economic) ... ... Modern History II— do. ...	50 50
Twelfth day.	10—12 2—4	Indian History—First paper ... ... Do. Second paper ...	50 50
Thirteenth day ...	10—12 2—4	Logic—First paper ... ... Do. Second paper	50 50
Fourteenth day.	10—1	Text-books, Grammar, etc., for Sanskrit, Arabic, Persian and Hebrew ...	60
	10—12	Text-books, Grammar, etc., for other languages	40
	2—4	Composition and Translation for Sanskrit, Arabic, Persian and Hebrew ...	40
	2—5	Composition and Translation for Indian languages and Translation for Greek, Latin, French and German ...	60

GROUP C.

Days	Hours	Subjects	Marks
Fifteenth day.	10—12	Agriculture (Written)	50
	3 Hours (Time and Date will be notified later).	Do. (Practical and Oral) ...	50
Sixteenth day.	10—12	Electrical Engineering—First paper ...	50
	2—4	Do. Second paper	50
Seventeenth day.	10—12	Mechanical Engineering—First paper.	50
	2—4	Do. Second paper	50
Eighteenth day.	10—12	Surveying—First paper (Written) ...	50
	2 Hours (Date and Time will be specified later.)	Do. (Practical) ...	50
Nineteenth day.	10—12	Architecture—First paper ...	50
	2—4	Do. Second paper ...	50
Twentieth day.	10—12	Drawing—Written	50
	2—4	Do. Practical	50
Twenty-first day.	10—1	Indian Music—Theory ...	50
	10—1	Western Music— do. ...	60
Time and Date will be specified later.		Indian Music—Practical ...	50
		Western Music— do. ...	40

Note.—Every year the exact dates of Part III of the Intermediate Examination will be notified on receipt of information from the constituent and affiliated Colleges as to the different groupings of subjects offered by their candidates.

B.A. DEGREE EXAMINATION.

(REVISED REGULATIONS)

Part I—English Language and Literature.

Days.	Hours.	Subjects.	Marks.
First Day ...	10—1	Shakespeare ...	75
Second Day ...	10—1	Modern Poetry ...	75
Third Day ...	10—1	Composition ...	75
Fourth Day ...	10—1	Modern Prose ...	75
		Total ...	300

(UNDER TRANSITORY REGULATIONS)

Part I—English Language & Literature.

Days	Hours	Subjects	Marks
First Day ...	10—1	Shakespeare ...	75
Second Day ...	10—1	Modern Poetry ...	75
Third Day ...	10—1	Composition ...	90
Fourth Day ...	10-12-30	Seventeenth & Eighteenth Century Prose ...	60
Fifth Day ...	10-12-30	Nineteenth Century Prose ...	60
		Total ...	360

Part II—A Second Language.

		Classical Language.	
Fifth Day ...	10—1	Text-books, Grammar, etc. ...	100
Sixth Day ...	10—1	Translation* ...	100
		Modern European or Indian Languages.	
Fifth Day ...	10—1	Text-books, Grammar, etc. ...	100
Fifth Day ...	10—1	Composition and Translation ...	100
		Total ...	200

* In the case of Sanskrit, Hebrew, Arabic and Persian the papers will include Questions on the History of Literature.

Part III—Optional Groups.

(i-a)—Mathematics.

Days.	Hours.	Subjects.	Marks.
Seventh Day ...	10—1	Geometry ...	90
Eighth Day ...	10—12	Dynamics ...	70
Do. ...	2—4	Astronomy ...	80
Ninth Day ...	10—12	Calculus ...	70
Tenth Day ...	10—1	Hydrostatics, Properties of Matter and Heat ...	100
Eleventh Day ...	10—1	Algebra and Trigonometry ...	90
		Total ...	500

(i-b)—Mathematics.

Days.	Hours.	Subjects.	Marks.
Seventh Day ...	10—1	Geometry ...	90
Eighth Day ...	10—12	Dynamics ...	70
Ninth Day ...	10—12	Calculus ...	70
Tenth Day ...	10—1	Optional Subject I ...	90
Eleventh Day ...	10—1	Algebra and Trigonometry ...	90
Twelfth Day ...	10—1	Optional Subject II ...	90
		Total ...	500

(ii-a)—Mathematics (Main.)

Days.	Hours.	Subjects.	Marks.
Seventh Day ...	10—1	Geometry ...	90
Eighth Day ...	10—12	Dynamics ...	70
Ninth Day ...	10—12	Calculus ...	70
Eleventh Day ...	10—1	Algebra and Trigonometry ...	90
		Total ...	320

(ii-b)—Physics (Main.)

Days.	Hours.	Subjects.	Marks.
Seventh Day ...	10–12-30	Dynamics and Hydrostatics ...	50
Eighth Day ...	10–12-30	Properties of Matter & Heat...	50
Ninth Day ...	10–12-30	Light and Sound ...	50
Tenth Day ...	10–12-30	Electricity and Magnetism ...	50
(Dates and hours of Practical Examination will be notified later.)		Practical Examination ...	100
		Laboratory Note-books ...	20
		Total ...	320

(ii-c)—Chemistry (Main.)

Seventh Day ...	10—1	General Theoretical and Physical Chemistry ...	60
Eighth Day ...	10—1	Inorganic Chemistry ...	60
Ninth Day ...	10—1	Organic Chemistry ...	80
(Dates and hours of Practical Examinations will be notified later.)		*Practical Examinations.*	
	(6 hours)	Inorganic Chemistry ...	80
	(3 hours)	Organic Chemistry ...	40
		Total ...	320

Group ii—(d), (e), (f) and (g).

(As Main Subjects)

Days.	Hours.	Subjects.	ii-d *Botany.	ii-e Zoology.	ii-f Geology.	ii-g Physiology.
Seventh Day ...	10—1	Written I. ...	80	80	75	80
Eighth Day ...	10—1	Written II. ...	80	80	75	80
(Dates and hours of Practical Examination will be notified later.)		Practical Examination I...	60	80	60	80
		Do. II...	60	80	60	80
		Collection ...	20	...	20	...
		Practical Note-books ...	20	...	20	...
		Library Note-books ...	...	...	10	...
		Total ...	320	320	320	320

*Botany ... { Written I—Thallophytes, Bryophytes, Pteridophytes, Gymnosperms and Histology.
Written II—Morphology and Taxonomy of Angiosperms, Plant Physiology and General Principles.

Group ii—(Subsidiary Subjects.)

Mathematics.

Days.	Hours.	Subjects.	Marks.
Eleventh Day ...	10—1	I Paper ...	90
Twelfth Day ...	10—1	II Paper ...	90
		Total ...	180

Physics.

Days.	Hours.	Subjects.	Marks.
Tenth Day ...	10—12	I Paper (Written) ...	60
Do. ...	2—4	II Paper (Written) ...	60
(Dates and hours of Practical Examinations will be notified later.)		Practical Examinations ...	60
		Total ...	180

Chemistry.

Days.	Hours.	Subjects.	Marks.
		Written Examination.	
Eleventh Day ...	10—1	General and Inorganic Chemistry ...	70
Twelfth Day ...	10—12	Organic Chemistry ...	40
		Practical Examination.	
Date and hour of the Practical Examination will be notified later.	(3 hours)	Inorganic Chemistry ...	70
		Total ...	180

Group ii—Botany, Zoology, Geology, Physiology, Mechanical Engineering and Electrical Engineering—(as Subsidiary Subjects.)

Days.	Hours.	Subjects.	ii-d Botany.	ii-e Zoology.	ii-f Geology.	ii-g Physiology	Mechanical Eng.	Electrical Eng.
Tenth Day ...	10—12	I Paper (Written).	60	60	60	60	60	60
Do. ...	2—4	II Paper (Written).	60	60	60	60	60	60
(Dates and hours of Practical Examinations to be notified later.)		Practical Examinations.	60	60	60	60	60	60
		Total ...	180	180	180	180	180	180

(iii)—Philosophy.

Days.	Hours.	Subjects.	Marks.
Seventh Day ...	10—1	Ethics ...	100
Eighth Day ...	10—1	Special Subject } Indian or European Philosophy.	100
Ninth Day ...	10—12	Logic and Theory of Knowledge I (Indian) ...	75
Do.	2—4	Logic and Theory of Knowledge II (European) ...	75
Tenth Day ...	10—12	Psychology I ...	75
Do.	2—4	Do. II ...	75
		Total ...	500

(iv-a) History and Economics.

Days.	Hours.	Subjects.	Marks.
Seventh Day ...	10—1	Political Science ...	100
Eighth Day ...	10—1	General Indian History ...	100
Ninth Day ...	10—1	Constitutional History of Great Britain and Ireland ...	100
Tenth Day ...	10—1	Outlines of European History..	100
Eleventh Day ...	10—1	Economics—(General) ...	100
		Total ...	500

(iv-b) Economics and History.

Days.	Hours.	Subjects	Marks.
Seventh Day ...	10—1	Optional Subject—Political Science ...	*100
Eighth Day ...	10—1	Do. (General Indian History) ...	*100
Ninth Day ...	10—1	Economics—Special ...	100
Tenth Day ...	10—1	Optional Subject—Outlines of European History ...	*100
Eleventh Day ...	10—1	Economics—General ...	100
Twelfth Day ...	10—1	Modern Economic History of England and India ...	100
		Total ...	500

* Any two subjects.

V. Languages other than English.

(1) Sanskrit and Early Indian History.

Seventh Day ...	10—1	Books of the Early Period ...	80
Eighth Day ...	10—1	Books of the Later Period ...	80
Ninth Day ...	10—1	Do.	80
Tenth Day ...	10—1	Grammar ...	80
Eleventh Day ...	10—1	History of Sanskrit Literature.	80
Twelfth Day ...	10—1	Early Indian History ...	100
		Total ...	500

(2) Urdu and Indian History—Muslim Period, or Arabic or Persian.

Seventh Day ...	10—1	Prose Books ...	80
Eighth Day ...	10—1	Poetry ...	80
Ninth Day ...	10—1	Translation ...	80
Tenth Day ...	10—1	Grammar, including Rhetoric and Prosody ...	80
Eleventh Day ...	10—1	History of Language and History of Literature ...	80
Twelfth Day ...	10—1	Indian History-Muslim Period or Arabic or Persian ...	100
		Total ...	500

(3) Arabic or Persian and Early Muslim History.

Days.	Hours.	Subjects.	Marks.
Seventh Day ...	10—1	Prose Books ...	80
Eighth Day ...	10—1	Poetry ...	80
Ninth Day ...	10—1	Translation ...	80
Tenth Day ...	10—1	Grammar, including Rhetoric and Prosody ...	80
Eleventh Day ...	10—1	History of Arabic or Persian Language and Literature ...	80
Twelfth Day ...	10—1	Early Muslim History ...	100
		Total ...	500

(4) A Dravidian Language or Oriya or Marathi, and a Related Subject or Sanskrit.

Seventh Day ...	10—1	Set books and History of Literature ...	80
Eighth Day ...	10—1	Do. do. ...	80
Ninth Day ...	10—1	History of Language and Grammar ...	80
Tenth Day ...	10—1	Comparative Grammar—Dravidian or Gaudian ...	80
Eleventh Day ...	10—1	Composition ...	80
Twelfth Day ...	10—1	Related Subject or Sanskrit ...	100
		Total ...	500

(5) Greek or Latin.

Seventh Day ...	10—1	Set Books and History of Literature ...	80
Eighth Day ...	10—1	Do. do. ...	80
Ninth Day ...	10—1	Prose Composition ...	80
Tenth Day ...	10—1	Translation of unprepared passages ...	80
Eleventh Day ...	10—1	Grammar ...	80
Twelfth Day ...	10—1	Greek or Roman History ...	100
		Total ...	500

(6) French or German.

Days.	Hours.	Subjects.	Marks.
Seventh Day ...	10—1	Set Books and History of Literature ...	80
Eighth Day ...	10—1	Do. do. ...	80
Ninth Day ...	10—1	History of Language ...	80
Tenth Day ...	10—1	Composition ...	80
Eleventh Day ...	10—1	Translation ..	80
Twelfth Day ...	10—1	Modern European History ...	100
		Total ..	500

(7) Hebrew and History of the Jews.

Seventh Day ...	10—1	Set Books ...	80
Eighth Day ...	10—1	Do. ...	80
Ninth Day ...	10—1	Translation ...	80
Tenth Day ...	10—1	Grammar ...	80
Eleventh Day ...	10—1	History of Language and Literature ...	80
Twelfth Day ...	10—1	History of the Jews ...	100
		Total ...	500

Gr. (vi.) Indian Music.

Days.	Hours.	Subjects.	Marks.
Seventh day	10—1	Theory (1st Paper) ...	100
Eighth day	10—1	Theory (2nd Paper)...	100
Dates and hours will be notified later.	...	Practical Examination I ...	100
	...	Do. II ...	100
		Total ...	400

Gr. (vii) Geography.

Days.	Hours.	Subjects.	Marks.
Seventh day...	10—1	Regional Geography— I Paper ...	100
Eighth day ..	10—1	Do. do. —II Paper ...	100
Ninth day ...	10—1	Economic Geography ...	100
Tenth day ...	10—1	Physical Basis of Geography ...	100
Eleventh day.	10—1	Cartography ...	100
		Total ...	500

B.A. (Honours) Degree Examination

PRELIMINARY EXAMINATION

Days.	Hours.	Subjects.	Marks.
First day ...	10—1	English Composition	90
Second day ...	10—1	English—Nineteenth Century Prose or English History	60
		Total ...	150

B.A. (Hons.) Degree Examination (Revised).

Branch i (MATHEMATICS.)

Days.	Hours.	Subjects.	Marks.
First day ...	10—1	Pure Mathematics I	175
Second day...	10—1	Applied Mathematics I	175
Third day ...	10—1	Pure Mathematics II	175
Fourth day...	10—1	Applied Mathematics II	175
Fifth day ...	10—1	Pure Mathematics III	175
Sixth day ...	10—1	Applied Mathematics III	175
Seventh day.	10—1	Optional Subject I	175
Eighth day...	10—1	Optional Subject II	175
		Total ...	1,400

Branch ii (PHILOSOPHY).

Days.	Hours.	Subjects.	Marks.
First day ...	10—1	Essay	200
Second day...	10—1	Psychology	200
Third day ...	10—1	Theory of Knowledge *or* Ethics ...	200
Fourth day...	10—1	Outlines of Indian Philosophy ...	200
Fifth day ...	10—1	European Philosophy (Descartes to Kant).	200
Sixth day ...	10—1	Special Subject I	200
Seventh day.	10—1	Special Subject II	200
		Total ...	1,400

Branch iii (HISTORY, ECONOMICS AND POLITICS.)

Days.	Hours.	Subjects.	Marks.
First day ...	10—1	Essay	200
Second day...	10—1	Indian History—General ...	200
Third day ...	10—1	Indian History—Special Subject ...	200
Fourth day...	10—1	Constitutional History of Great Britain and Ireland	200
Fifth day ...	10—1	History—Special Subject ...	200
Sixth day ...	10—1	Politics—General	200
Seventh day.	10—1	History—Special Subject ...	200
Eighth day...	10—1	Economics—General	200
Ninth day ...	10—1	Politics—Special Subject ...	200
Tenth day ...	10—1	Economic History—Special Subject...	200
Eleventh day	10—1	Economics—Special Subject ...	200
Twelfth day.,	10—1	Economics—Special Subject ...	200
		Total (for seven papers) ...	1,400

Branch iv (ECONOMICS AND POLITICS OR HISTORY.)

Days.	Hours	Subjects.	Marks
First day ...	10—1	Essay	200
Second day ...	10—1	*Indian History—General (Optional)..	200
Third day ...	10—1	Economics I	200
Fourth day...	10—1	Economics II	200
Fifth day ...	10—1	Economics—Special subject (Compulsory).	200
Sixth day ...	10—1	*Politics—General (Optional) ...	200
Seventh day.	10—1	*Economics—Special subject (Optional)	200
Eighth day...	10—1	Economic History	200
		Total (for seven papers) ...	1,400

*Candidates should select two out of the three.

Branch v (TWO LANGUAGES OTHER THAN ENGLISH).

The time-tables for the examinations in languages will be identical with the time-tables detailed under Group (v) of the B A. Degree Courses (under the New Regulations) with the word 'Composition' substituted in the place of the Related Subject or Language detailed under Twelfth day, 10—1. Candidates for Honours will each be required to answer the papers set for the B.A. Degree Examination in the languages selected for Honours. The examination in Part III of Group (v) under the New Regulations for the B. A. Degree and Branch (v) for the B.A. (Hons.) Degree shall commence

on or after the Monday following the fourth Monday in March, as will be annually determined by the Syndicate and notified in the Gazette in the preceding February. The Syndicate shall so fix the dates of the examinations in Group (v) and Branch (v) as to avoid, as far as may be practicable, the setting of duplicate sets of question papers in the same subject.

Branch vi (ENGLISH LANGUAGE AND LITERATURE).

Days.	Hours.	Subjects.	Marks.
First day ..	10—1	History of the English Language	150
Second day. .	10—1	Shakespeare	175
Third day ...	10—1	Modern English Literature, First Paper ...	125
Fourth day...	10—1	Modern English Literature, Second Paper ...	125
Fifth day ...	10—1	Beowulf and other Old English Texts	150
Sixth day ...	10—1	Modern English Literature, Third Paper	125
Seventh day .	10—1	Chaucer and other Middle English Texts	150
Eighth day...	10—1	Essay	100
Ninth day ...	10—1	Special Period—First Paper ...	150
Tenth day ..	10—1	Special Period—Second Paper ...	150
		Total ...	1,400

Branch vii (SANSKRIT LANGUAGES AND LITERATURE).

Days	Hours.	Subjects.	Marks
First day ...	10—1	Comparative Philology and Comparative Grammar ...	200
Second day...	10—1	History of the Sanskrit Language and Literature ...	150
Third day ...	10—1	Prescribed Text-books: General ...	150
Fourth day ..	10—1	Grammar, Prosody and Poetics ..	150
Fifth day ...	10—1	Translation ...	150
Sixth day ...	10—1	Prescribed Text-books: Special (i) .	150
Seventh day	10—1	Do. do. (ii) ...	150
Eighth day...	10—1	Do. do. (iii) ...	150
Ninth day ...	10—1	Essay	150
		Total ...	1,400

Branch viii (ARABIC LANGUAGE AND LITERATURE).

Days.	Hours.	Subjects.	Marks.
First day ...	10—1	Comparative Philology and Comparative Grammar	200
Second day...	10—1	History of the Arabic Language and Literature	150
Third day ...	10—1	Prescribed Text-books : General ...	150
Fourth day...	10—1	Grammar, Prosody and Poetics ..	150
Fifth day ...	10—1	Translation	150
Sixth day ...	10—1	Prescribed Text-books ; Special (i) ...	150
Seventh day	10—1	Do. do. do. (ii) ...	150
Eighth day	10—1	Do. do. do. (iii) ...	150
Ninth day ..	10—1	Essay	150
		Total ...	1,400

Branch ix—A DRAVIDIAN LANGUAGE OR URDU AND ITS LITERATURE.

Days.	Hours.	Subjects.	Marks.
First day ...	10—1	History of Language and Philology ..	200
Second day...	10—1	History of Literature and Literary Criticism	200
Third day ...	10—1	Prescribed Text-books (General) ...	150
Fourth day...	10–1	Prescribed Text-books (Special) ...	150
Fifth day ...	10—1	Grammar, Prosody and Poetics ..	150
Sixth day ...	10—1	Essay	200
Seventh day.	10—1	Translation from English into the language	150
Eighth day...	10—1	South Indian History and Inscriptions (in the case of Dravidian languages) and Arabic, Persian or Hindi (in the case of Urdu)	200
		Total ...	1,400

B.Sc. DEGREE EXAMINATION.

PART I

(a) English.

Days	Hours	Subjects	Marks.
First day ...	10—1	English Composition	90
Second day...	10—1	English Prose	60
		Total ...	150

(b) (i) Indian Languages.

Days.	Hours.	Subjects.	Marks.
First day ..	10—12 2— 4	Translation ... ... Composition	60 60
		Total ...	120

(b) (ii) & (iii) Other Languages.

Days.	Hours.	Subjects.	Marks.
First day ...	10—12 2— 4	Translation ... ... Prescribed text-books	60 60
		Total ...	120

B. Sc. DEGREE EXAMINATION.

Part II.

Mathematics (Main).

Days	Hours	Subjects	Marks
Fourth day...	10—1	Algebra and Trigonometry ...	80
Fifth day ...	10—1	Geometry	80
Sixth day ...	10-12-30	Calculus	70
Seventh day.	10-12-30	Dynamics	70
		Total ..	300

Physics (Main).

Fourth day...	10-12-30	Dynamics and Hydrostatics ...	50
Fifth day ...	10-12-30	Properties of Matter & Heat ...	50
Sixth day ...	10-12-30	Light and Sound	50
Seventh day.	10-12-30	Electricity and Magnetism ...	50
Dates and hours of Practical Examinations will be notified later.		Practical Examination	80
		Laboratory Note-books ...	20
		Total ...	300

Chemistry (Main).

Days.	Hours.	Subjects.	Marks.
Fourth day...	10—1	General Chemistry	60
Fifth day ...	10—1	Inorganic Chemistry	60
Sixth day ...	10—1	Organic Chemistry	80
Dates and hours of Practical Examination will be notified later.		Practical Examination (Organic) ... Do. do. (Inorganic) ... Laboratory Note-books ...	30 70
		Total ...	300

Botany (Main).

Fourth day...	10—1	Written Examination in the Main I ...	90
Fifth day ...	10—1	Do. do. II ...	90
Dates and hours of Practical Examination will be notified later.		Practical Examination I ... " " II ... Laboratory Note-books ... Collection of plants ...	40 40 20 20
		Total ...	300

Zoology (Main).

Fourth day.	10—1	Written Examination in the Main I ...	80
Fifth day ...	10—1	Do. do. II ...	80
Dates and hours of Practical Examination will be notified later.		Practical Examination I ... Do. do. II ... Laboratory Note-books ...	50 50 40
		Total ...	300

Geology (Main).

Days.	Hours.	Subjects.	Marks.
Fourth day...	10—1	Written Examination I ...	75
Fifth day ...	10—1	Do. do. II ...	75
Dates and hours of Practical Examination will be notified later.		Practical Examination I ... Do. do. II ... Laboratory Note-book ... Collection and Field work notes ...	50 50 25 25
		Total ...	300

Mathematics (Subsidiary).

Eighth day...	10—1	Pure Mathematics I ...	75
Ninth day ...	10—1	Do. do. II ...	75
		Total ..	150

Physics (Subsidiary).

Eighth day...	10—12	General Physics, Heat and Sound ...	50
Ninth day ...	10—12	Light Electricity and Magnetism ...	50
Dates and hours of Practical Examination will be notified later.		Practical Examination ...	50
		Total ...	150

Chemistry (Subsidiary).

Days.	Hours.	Subjects.	Marks.
Eighth day ...	10—1	General and Inorganic Chemistry ...	60
Ninth day ...	10—12	Organic Chemistry ...	30
Dates and hours of Practical Examination will be notified later.		Practical Examination ...	60
		Total ...	150

Botany (Subsidiary).

Eighth day.	10—12	Written Examination I ...	50
Ninth day ...	10—12	Do. do. II ...	50
Dates and hours of Practical Examination will be notified later.		Practical Examination ...	50
		Total ...	150

Zoology (Subsidiary).

Eighth day.	10—12	Written Examination I ...	50
Ninth day ...	10—12	Do. do. II	50
Dates and hours of Practical Examination will be notified later.		Practical Examination ...	50
		Total ...	150

Geology (Subsidiary)

Days.	Hours.	Subjects.	Marks.
Eighth day.	10—12	Written Examination I ...	50
Ninth day ...	10—12	Do do II ...	50
Dates and hours of Practical Examination will be notified later.		Practical Examination ...	50
		Total ...	150

Mechanical Engineering (Subsidiary).

Eighth day.	10—12	Written Examination I ...	50
Ninth day ...	10—12	Do do II ...	50
Dates and hours of Practical Examination will be notified later		Practical Examination ...	50
		Total ...	150

Electrical Engineering (Subsidiary).

Eighth day.	10—12	Written Examination I ...	50
Ninth day ...	10—12	Do do II ...	50
Dates and hours of Practical Examination will be notified later.		Practical Examination ...	50
		Total ...	150

B. Sc. Honours Degree Examination.

Part I—English.

Days.	Hours.	Subjects.	Marks.
First day ...	10—12	Composition ...	60
	2— 4	Prose ...	60
		Total ...	120

B. Sc. (Honours) Degree Examination.

PART II.

Branch I—Mathematics

Days.	Hours.	Subjects.	Marks.
First day ...	10—1	Pure Mathematics I ...	175
Second day...	10—1	Applied Mathematics I ...	175
Third day ...	10—1	Pure Mathematics II ...	175
Fourth day...	10—1	Applied Mathematics II ...	175
Fifth day ...	10—1	Pure Mathematics III ...	175
Sixth day ...	10—1	Applied Mathematics III ...	175
Seventh day.	10—1	Optional subject I ...	175
Eighth day...	10—1	Optional subject II ...	175
		Total ...	1,400

Branch II—Physics (Main subject).

Days.	Hours.	Subjects.	Marks.
First day ...	10—1	Properties of Matter ...	100
Second day...	10—1	Heat and Sound ...	100
Third day ...	10—1	Sound and Light ...	100
Fourth day...	10—1	Magnetism and Electricity ...	100
Fifth day ...	10—1	Optional subject ...	100
Dates and hours of Practical Examinations will be notified later.		Practical Examinations (4) ...	400
		Laboratory Note-books ...	200
		Total marks—Main subject ...	1,100
		Total marks—Subsidiary subject (*Vide* B. Sc. Examn.) ...	150
		Grand Total ...	1,250

Branch III—Chemistry (Main subject.)

Days.	Hours.	Subjects.	Marks.
First day ...	10—1	General Chemistry ...	125
Second day...	10—1	Inorganic Chemistry ...	125
Third day ...	10—1	Organic Chemistry ...	125
Fourth day...	10—1	Physical Chemistry ...	125
Fifth day ...	10—1	Optional Subject ...	150
Dates and hours of Practical Examinations will be notified later.		Practical Examinations (4) ...	400
		Laboratory Note-books ...	200
		Total marks—Main subject ...	1,250
		Total marks—Subsidiary subject (*Vide* B. Sc. Examn.) ...	150
		Grand Total ...	1,400

Branch IV—Botany (Main subject).

Days.	Hours.	Subjects.	Marks.
First day ...	10—1	Written Examination I ... (Algae, Fungi, etc.)	125
Second day...	10—1	Written Examination II .. (Pteridophytes, etc.)	125
Third day ...	10—1	Written Examination III ... (Histology, etc.)	125
Fourth day...	10—1	Written Examination IV ... (Systematic Botany, etc.)	125
Fifth day ...	10—1	Written Examination ... (Special Subject)	100
Dates and hours of Practical Examinations will be notified later.		Practical Examination I ...	100
		Do. II ...	100
		Do. III ...	100
		Do. IV ...	100
		Laboratory Records and Collections ...	100
		Total marks (Main subject) ...	1,100
		Subsidiary subject I } (*Vide* B. Sc. Examn.) ...	150
		Do. II } ...	150
		Total marks (Subs. subject) ...	300
		Grand Total ...	1,400

Branch V—Zoology (Main subject).

(For 1934 & 1935 Examinations only).

Days.	Hours.	Subjects.	Marks.
First day ...	10—1	Written Examn. I Invertebrata I ...	175
Second day ...	10—1	Do. II Do. II ...	175
Third day ...	10—1	Do. III Chordata ...	175
Fourth day ...	10—1	Do. IV General Principles ...	175
Dates and hours of Practical Examinations will be notified later.		Practical Examination I ...	100
		Do. II ...	100
		Do. III ...	100
		Laboratory Note-books ...	100
		Total marks (Main subject) ...	1,100
		Subsidiary subject I (*Vide* B. Sc. Examn.) ...	150
		Do. II (*Vide* B. Sc. Examn.) ...	150
		Total marks (Subs. subject) ...	300
		Grand Total ...	1.400

To take effect from the Examination of 1936.

Branch V—Zoology (Main Subject).

Days.	Hours.	Subjects.	Marks.
First day ...	10—1	Written Examination I, Invertebrata ...	140
Second day.	10—1	Written Examination II, Chordata.	140
Third day...	10—1	Written Examination III, Vertebrate Embryology ...	140
Fourth day.	10—1	Written Examination IV, General Principles ...	140
Fifth day ...	10—1	Written Examination V, Special subject ...	140
Dates and hours of Practical Examinations will be notified later.		Practical Examination I ...	100
		Do. II ...	100
		Do. III ...	100
		Laboratory record ...	100
		Total marks (Main subject)...	1,100
		Subsidiary Subject I } *Vide* B.Sc Exam.	150
		Do. II } *Vide* B.Sc Exam.	150
		Total marks (Subs. subjects) ...	300
		Grand Total ...	1,400

Branch VI—Geology (Main subject).

Days.	Hours.	Subjects.	Marks.
First day ...	10—1	Written Examination I—General Geology and Structural...	100
Second day...	10—1	Do. II—Stratigraphy and Palaeontology...	100
Third day ...	10—1	Do III—Minerology ...	100
Fourth day...	10—1	Do. IV—Petrology ...	100
Dates and hours of Practical Examinations will be notified later.		Practical Examination I ...	100
		Do. II ...	100
		Do. III ...	100
		Do. IV ...	100
		Laboratory Note-books and other records re-Practical work and Specimens ...	100
		Total marks (Main subject) ...	900
		Subsidiary Subject I (*Vide* B. Sc. Examn.) ...	150
		Do. II (*Vide* B. Sc. Examn.) ...	150
		Total marks (Sub. subject) ...	300
		Grand Total ...	1,200

Note :—The time-tables for the Subsidiary subjects shall be the same as for the Subsidiary subjects under B. Sc. (Pass).

B.Sc. Ag. Degree Examination.

First Examination.

Days.	Hours.	Subjects.	Marks.
First day ...	7—10 1— 4	Agriculture (Written) ... Botany do. ...	60 60
Second day...	7—10 1— 4	Chemistry (Written) ... Zoology do. ...	60 60
Days and hours to be notified.		Agriculture (Practical) ... Botany do. ... Chemistry do. ... Zoology do. ...	40 40 40 40
		Total ...	400

Second Examination.

First day ...	7—10 1— 4	Agriculture-Plant Husbandry I (Written). do. do. II do.	100 100
Second day...	7—10 1— 4	Agricultural Engineering (Written) Agricultural Zoology do.	60 60
Third day ...	7—10	Animal Hygiene (Written)	60
Days and hours to be notified.		Agriculture-Plant Husbandry (Practical) Agricultural Engineering do. Agricultural Zoology do. Animal Hygiene do.	100 40 40 40
		Total ...	600

Final Examination.

Days.	Hours.	Subjects.	Marks.
First day ...	7—10	Agriculture-Economics and Farm Management (Written).	100
	1— 4	Agriculture-Animal Husbandry do.	100
Second day...	7—10	Agricultural Botany I (Written).	100
	1— 4	do II do.	100
Third day ...	7—10	Agricultural Chemistry I (Written)	100
	1— 4	do. II do.	100
Days and hours to be notified later.		Agriculture-Economics and Farm Management. (Practical).	100
		Agriculture-Animal Husbandry do.	100
		Agricultural Botany I do.	50
		Agricultural Botany II do.	50
		Agricultural Chemistry I do.	50
		do. II do.	50
		Total ...	1,000

Note—The B.Sc. (Ag.) Degree Examination under the Old Regulations will be held in 1934 and 1935. For Regulations—*Vide* Appendix XIX.

L.T. DEGREE EXAMINATION

Days.	Hours.	Subjects.	Marks.
First day ...	10—1	Theory and Practice of Education A.B.C. I...	100
	2—5	Theory and Practice of Education A.B.C. II...	100
Second day...	10-11-30	Special Subject	50
	2—5	Methods of Teaching English D.-I ...	100
Third day ...	10—1	Methods of Teaching an Optional Subject D.-2	100
		Total ...	450

FIRST EXAMINATION IN LAW

Days.	Hours.	Subjects.	Marks.
First day ...	10—1	Jurisprudence	100
	2—5	Roman Law	100
Second day...	10—12	Indian Constitutional Law	70
	2—5	The Law of Torts	100
Third day ...	10—1	Contracts, including Negotiable Instruments and Specific Relief I	100
	2—5	Contracts, including Negotiable Instruments and Specific Relief II	100
		Total ...	570

B.L. DEGREE EXAMINATION.

Days.	Hours.	Subjects.	Marks.
First day ...	10—1 2—5	Law of Property I (Real property, Trust and Easement ... Law of Property II (Transfer of property Act) ...	100 100
Second day...	10—12 2—5	Madras Land Tenures ... Hindu Law and Muhammadan Law ...	70 150*
Third day ...	10—1 2—4	Criminal Law ... Law of Evidence ..	100 80
		Total ...	600

The distribution of marks will be as follows:—

* Hindu Law	...	...	...	100
Muhammadan Law	...	...	...	50

M.L. DEGREE EXAMINATION.

Branch I—Jurisprudence.

Day.	Hours.	Subjects.	Marks.
First day ...	10—1 2—5	Jurisprudence—General ... Comparative Jurisprudence, with specific reference to Roman, Hindu and Muhammadan Systems ...	150 150
Second day...	10—1 2—5	History of the Common Law of England... History of Equity and Equity Jurisprudence ...	150 150
Third day ...	10—1 2—5	Legislation (Theory Method and interpretation.) Special Subjects— Roman Law, or Continental Civil Law, or ... Ancient Law and custom including Customary Law in India,(including Burma)	150 150
Fourth day...	10—1	Essay ...	200
		Total ...	1,100

Branch II—Constitutional Law.

Days.	Hours.	Subjects.	Marks.
First day ...	10—1	Constitutional Law of England and its History	150
	2—5	Indian Constitutional Law and its History	150
Second day...	10—1	Constitutional Law of the British Dominions and other countries, e.g., U.S.A. Japan, Germany	150
	2—5	Public Authorities, Corporations and Officers	150
Third day ...	10—1	Law of Elections	150
	2—5	British India and the Indian States (with Special reference to Treaties) ...	150
Fourth day...	10—1	Essay	200
		Total ...	1,100

Branch III—International Law.

Days.	Hours.	Subjects.	Marks.
First day ...	10—1	Public International Law with documents—I Paper	150
	2—5	Do. II Paper	150
Second day...	10—1	Private International Law—General ...	150
	2—5	Private International Law—Domicile ...	150
Third day ...	10—1	Prize Law	150
	2— 5	Special Subject— Outlines of the History of Diplomacy and Diplomatic Practice, or League of Nations (Constitution and Powers especially International Court of Justice), or The Monroe Doctrine and Interstate Law in the United States and International Law in the Far East, or British India and the Indian States, (including Treaties).	150
Fourth day...	10—1	Essay	200
		Total ...	1,100

Branch IV—Torts and Crimes.

Days.	Hours.	Subjects.	Marks.
First day ...	10—1	Theory of Crimes and the punishments including Criminology ...	150
	2—5	Law of Crimes and Criminal Procedure in India	150
Second day...	10—1	History of Criminal Law and Procedure in England	150
	2—5	Comparative Criminal Jurisprudence including Procedure	150
Third day ...	10—1	Law of Torts and its History ...	150
	2—5	Negligence and Nuisance and Libel and Slander	150
Fourth day...	10—1	Essay	200
		Total ...	1,100

Branch V—Law of Obligations.

(CONTRACTS AND TORTS).

Days.	Hours.	Subjects.	Marks.
First day ...	10—1	Law of Contracts and its History ...	150
	2—5	Law of Torts and its History ...	150
Second day...	10—1	Remedies of Specific Performance, Injunctions and Damages, and their History ...	150
	2—5	*Negotiable Instruments ...	150
Third day ...	10—1	*Agency and Partnership	150
	2—5	*Negligence, Nuisance, Libel and Slander	150
Fourth day...	10—1	Essay	200
	2—5	*Sale of Goods and Bailments and Carriers ...	150
Fifth day ...	10—1	*Domestic Relations, Husband and Wife Parent and Child, Master and Servant...	150
		Total (of seven papers) ...	1,100

Note :—Candidates may select any three of the five papers starred (*)

EXAMINATION.

Branch VI—Mercantile Law.

Days.	Hours.	Subjects.	Marks.
First day ...	10—1	Company Law ...	150
	2—5	Special Subject— ... Bankruptcy, or Patents, Copyright and Trade Marks, or Insurance—Life, Fire and Marine	150
Second day...	10—1	Banking including Negotiable instruments ...	150
	2—5	Sale of Goods	150
Third day ...	10—1	Agency and Partnership ...	150
	2—5	Maritime Law (Merchant Shipping, Bills of Lading, Charter-parties and Collisions) ...	150
Fourth day...	10—1	Essay ...	200
		Total ...	1,100

Branch VII—Personal Laws.

Days.	Hours.	Subjects.	Marks.
First day ...	10—1	Hindu Law—Adoption, Marriage and Guardianship ...	150
	2—5	Hindu Law—Joint Family and Succession ...	150
Second day...	10—1	Hindu Law Texts and their History and rules of Interpretation ...	150
	2—5	Law of Hindu and Muhammadan Endowments ...	150
Third day ...	10—1	Muhammadan Law and its History ...	150
	2—5	Statute Law relating to Guardianship, Marriage and Succession in India ...	150
Fourth day...	10—1	Essay	200
		Total ...	1,100

Branch VIII—Transfer of Property.

Days.	Hours.	Subjects.	Marks.
First day ...	10—1 2—5	Law of Transfer of Property—In England and in India ... Vendors and Purchasers and Mortgages ...	150 150
Second day...	10—1 2—5	Wills, Succession and Bankruptcy ... Compulsory and Judicial Sales ...	150 150
Third day ...	10—1 2—5	Law of Private Trusts ... Public Trusts and Charities ...	150 150
Fourth day...	10—1	Essay	200
		Total ...	1,100

Branch IX—Real and Personal Property.

Days.	Hours.	Subjects.	Marks.
First day ...	10—1 2—5	Real Property ... ... Personal Property	150 150
Second day.	10—1 2—5	Highways—including Foreshore and Seashore ... ... Easements and Waters	150 150
Third day ..	10—1 2—5	Land Tenures in India—Customary ... Land Tenures in India—Statute-Law ...	150 150
Fourth day...	10—1	Essay	200
		Total ...	1,100

MEDICAL EXAMINATIONS.

Pre-Registration Examination.

Days.	Hours.	Subjects.	Marks.
First day ...	10—1	Inorganic Chemistry (Written) ...	100
	2—5	Physics (Written) ...	100
Second day...	10—1	Biology (Written) ...	100
Dates and hours will be duly notified.		Inorganic Chemistry (Practical) ...	50
		Physics (Practical)	50
		Biology (do.)	50
		Inorganic Chemistry (Oral) ...	50
		Physics (Oral) ...	50
		Biology (Oral) ...	50
		Total ...	600

FIRST M.B. & B.S. EXAMINATION.

Days.	Hours.	Subjects.	Marks.
First day...	10—1	Organic Chemistry (Written) ...	50
	2—5	Anatomy including Elements of Human Embryology (Written)	100
Second day	10—1	Physiology including Bio-Chemistry (Written)	100
Days and hours will be duly notified.		Organic Chemistry (Practical) ...	50
		Do. (Oral)	50
		Anatomy including Elements of Human Embryology (Dissections) ...	50
		Do. (Oral) ...	50
		Physiology including Bio-Chemistry (Practical and Oral)	100
		Total ...	550

SECOND M.B. & B.S. EXAMINATION.

Days.	Hours.	Subjects.	Marks.
First day...	10—1	Pharmacology (Written)	100
	2—5	Hygiene (Written)	100
Second day ...	10—1	General Pathology with Bacteriology (Written)	100
	2—5	Ophthalmology (Written)	50
Days and hours will be duly notified.		Pharmacology (Practical)	50
		Do. (Oral)	50
		Hygiene (Practical and Oral) ...	50
		General Pathology with Bacteriology (Practical) ...	50
		Do. do. (Oral) ...	50
		Ophthalmology (Practical and Oral) ...	50
		Total ...	650

FINAL M.B. & B.S. DEGREE EXAMINATION.

Days.	Hours.	Subjects.	Marks.
First day ...	10—1 2—5	Forensic Medicine (Written) ... Medicine (Written) ...	100 100
*Second day...	10—1	Surgery (Written) ...	100
Third day ...	10—1	Obstetrics and Gynaecology (Written) ...	100
Days and hours will be duly notified.		Forensic Medicine (Oral) ... Medicine (Clinical) ... Do. (Oral) ... Surgery (Clinical) ... Do. (Oral) ... Operative Surgery ... Obstetrics and Gynaecology (Clinical, Practical and Oral) ...	50 150 100 150 50 50 100
		Total ...	1,050

DIPLOMA IN MIDWIFERY EXAMINATION. (D. G. O.)

Days.	Hours.	Subjects.	Marks.
First day ...	10—1 2—5	Midwifery ... Gynaecology and Diseases of a new Born Child ...	100 100
Second day...	10—4	Clinical and *Viva Voce* examinations ...	100
		Total ...	300

M. D. DEGREE EXAMINATION.
BRANCH I
Medicine.

Days.	Hours.	Subjects.
First day ...	10—1 2—5	Medicine (General) Medicine, including Mental Diseases and Pathology. First Paper.
Second day...	10—1	Medicine, including Mental Diseases and Pathology. Second Paper.
Third day ...	10—4	Clinical and Oral Examinations.

BRANCH II

Midwifery, etc.

Days.	Hours.	Subjects.
First day ...	10—1 2—5	Medicine (General). Midwifery and Diseases of Women and Children, including Pathology. First Paper.
Second day...	10—1	Midwifery and Diseases of Women and Children including Pathology. Second Paper.
Third day ...	10—4	Clinical and Oral Examinations.

BRANCH III

Pathology.

First day ...	10—1	Medicine (General).
Second day...	10—1 2—5	Pathology. First Paper. Pathology. Second Paper.
Third day ...	10—4	Practical and Oral Examinations.

BRANCH IV

Tropical Medicine.

First day ...	10—1 2—5	Medicine (General). Tropical Medicine, including the Pathology Tropical Diseases. First Paper.
Second day...	10—1	Tropical Medicine, including the Pathology Tropical Diseases. Second Paper.
Third day ...	10—4	Clinical and Oral Examinations.

M. S. DEGREE EXAMINATION.

Days.	Hours.	Subjects.
First day ...	10—1 2—5	Surgery. First Paper. Surgery. Second Paper.
Second day...	10—1 2—5	Surgical Anatomy and Pathology. Special Subject.
Third day ...	10—1 2—5	Operative Surgery and the use of instruments. Clinical and Oral Examinations.

B S.Sc. DEGREE EXAMINATION.

PART I.

Days.	Hours.	Subjects.	Marks.
First day ...	10—1	Chemistry and Physics in relation to Public Health, and Climatology and Meteorology (Written paper) ...	100
	2—5	Bacteriology (Written paper) ...	100
Second day...	10—12	Medical Entomology and Parasitology (Written paper) ...	100
Third day ...	10—2	Chemistry and Physics in relation to Public Health (Practical) ...	100
	3—5	Chemistry and Physics in relation to Public Health (Oral) ...	50
Fourth day...	10—1	Bacteriology (Practical) ...	100
	2—4	Do (Oral) ...	50
Fifth day ...	10—1	Medical Entomology and Parasitology (Practical) ...	100
	2—4	Medical Entomology and Parasitology (Oral) ...	50
		Total ...	750

PART II

Days.	Hours.	Subjects	Marks.
First day ..	10—1	Principles and Practice of Public Health including Sanitary Engineering (Written paper) ...	100
	2—5	Epidemiology and Infectious Diseases (Written paper) ...	100
Second day...	10—12	Sanitary Law and Vital Statistics (Written paper) ...	100
	2—5	Principles and Practice of Public Health (Oral) ...	50
Third day ...	7—10	Epidemiology and Infectious Diseases (Practical) ...	50
	10—1	Epidemiology and Infectious Diseases (Oral) ...	50
	2—5	Sanitary Law and Vital Statistics (Oral)...	50
Fourth day...	7—1	Public Health Administration (report on sanitary inspection) ...	150
		Total ...	650

FIRST EXAMINATION IN ENGINRERING.

Days.	Hours.	Nos.	Question papers.	Marks.
First day ...	10-1	1	Mathematics I ...	100
	2-5	2	Mathematics II ...	100
Second day...	10-12	3	Physics ...	75
	2-4	4	Chemistry ...	75
Third day ..	10-1	5	Applied Mechanics ...	100
	2-4	6	Civil Engineering I ...	75
Fourth day...	10-1	7	Civil Engineering II ...	100
Fifth day ...	10-1	8	Mechanical Engineering ...	100
	2-5	9	Electrical Engineering ...	100
Sixth day ...	10-12	10	Surveying ...	75
	2-5	11	Geometrical Drawing ...	100
Seventh day.	10-1	12	Building Drawing ...	100
	2-5	13	Machine Drawing ...	100
			Total ...	1,200

B. E. Degree Examination.

Civil Branch.

Days.	Hours.	Nos.	Question papers.	Marks.
First day ...	10-1	1	Mathematics I ...	100
	2-5	2	Mathematics II ...	100
Second day...	10-1	3	Strength of Materials and Theory of Structures I ...	100
	2-5	4	Strength of Materials and Theory of Structures II ...	100
Third day ...	10-1	5	Hydraulics ...	100
	2-5	6	Structural Engineering I ...	100
Fourth day...	10-1	7	Structural Engineering II ...	100
	2-5	8	Highway Engineering and Railway Engineering ...	100
Fifth day ...	10-1	9	Civil Engineering Drawing I ...	100
	2-5	10	Irrigation Engineering and Dock and Harbour Engineering ...	100
Sixth day ...	10-1	11	Sanitary Engineering ...	100
	2-5	12	Surveying ...	100
Seventh day	10-1	13	Civil Engineering Drawing II ...	100
...	...	...	Engineering Laboratory Note books, Survey field books, Drawings and Designs ...	100
			Total ...	1,400

NOTE.—Paper Nos. 1, 2 and 3 are common to all branches of Engineering.

Mechanical Branch.

Days.	Hours.	Nos.	Question papers.	Marks.
First day ...	10-1	1	Mathematics I ...	100
	2-5	2	Mathematics II ...	100
Second day...	10-1	3	Strength of Materials and Theory of Structures ...	100
	2-5	4	Theory of Machines ...	100
Third day ...	10-1	5	Electrical Technology I ...	100
	2-5	6	Do II ...	100
Fourth day.	10-1	7	Heat Engines I ...	100
	2-5	8	Heat Engines II ...	100
Fifth day ...	10-1	9	Machine Drawing and Design I ...	100
	2-5	10	Fuels, Gas plants and Boilers ...	100
Sixth day ...	10-1	11	Hydraulic Machinery ...	100
	2-5	12	Workshop Practice and Machine Tools ...	100
Seventh day.	10-1	13	Machine Drawing and Design II ...	100
...	...	...	Engineering Laboratory Note-books; Drawings and Designs ...	100
			Total ...	1,400

NOTE.—Papers Nos. 1, 2 and 3 are common to all branches of Engineering, 4, 5 and 6 are common with Electrical Branch.

Electrical Branch.

Days.	Hours.	Nos.	Question papers.	Marks.
First day ...	10-1	1	Mathematics I ...	100
	2-5	2	Mathematics II ...	100
Second day...	10-1	3	Strength of Materials & Theory of structures ...	100
	2-5	4	Theory of Machines ...	100
Third day ...	10-1	5	Electrical Technology I ...	100
	2-5	6	Do. II ...	100
Fourth day...	10-1	7	Heat Engines ...	100
	2-5	8	Principles of Electrical Machinery I.	100
Fifth day ..	10-1	9	Principles of Electrical Machinery II.	100
	2-5	10	Electrical Measurements and Measuring Instruments ...	100
Sixth day ...	10-1	11	Power Generation, Transmission and Utilization I ...	100
	2-5	12	Power Generation, Transmission and Utilization II ...	100
Seventh day.	10-1	13	Machine Drawing and Design ...	100
...	...	...	Engineering Laboratory Note books, Drawings and Designs ...	100
			Total ...	1,400

NOTE.—Papers Nos. 1, 2 and 3 are common to all branches of Engineering. 4, 5 and 6 are common with Mechanical Branch.

ORIENTAL TITLES EXAMINATION

Mīmāmsā, Vedānta, Nyāya, Vyākarana, Sāhitya, Jyotisa or Ayurveda Siromani.

Preliminary

Days.	Hours.	Subjects.	Marks.
First day ...	10—1	Prescribed Text books (i) General ...	200
Second day...	10—1	Prescribed Text-books (ii) General ...	200
Third day ...	10—1	Prescribed Text-books—Special (i) ...	150
Fourth day..	10—1	Prescribed Text-books—Special (ii) ...	150
		Total ...	700

Final

Days.	Hours.	Subjects.	Marks.
First day ...	10—1	History of Sanskrit Language and Literature	200
Second day...	10—1	Prescribed Text-books—Special (i) ...	200
Third day ..	10—1	Prescribed Text-books—Special (ii) ...	200
Fourth day..	10—1	Prescribed Text-books—Special (iii) ...	200
		Total ...	800

Vidvān —Preliminary

For Parts A and C in Regulation 7 of Chapter LVII

Days.	Hours.	Subjects.	Marks.
First day ...	10—1	Prescribed Vernacular Text-books ...	200
Second day...	10—1	Vernacular Composition	200
Third day ...	10—1	Prescribed Sanskrit Text-books (I) ...	150
Fourth day...	10—1	Prescribed Sanskrit Text-books (II) ...	150
		Total ...	700

Vidvan—Preliminary.
For Part B in Regulation 7 of Chapter LVII

Days.	Hours.	Subjects.	Marks.
First day ...	10—1 2—5	Prescribed Text-books I ... Do. II ...	175 175
Second day...	10—1	Composition ...	150
Third day ...	10—1	Sanskrit Text-books and Translation ...	100
		Total ...	600

Vidvān—Final
For Parts A and C in Regulation 7 of Chapter LVII

First day ...	10—1	History of Sanskrit Language and Literature ...	200
Second day..	10—1	Prescribed Sanskrit Text-books ..	200
Third day ..	10—1	Prescribed Vernacular Text-books ...	200
		Total ...	600

Vidvan—Final.
For Part B in Regulation 7 of Chapter LVII

First day ...	10—1 2—5	Prescribed Text-books I ... Do. II ...	175 175
Second day...	10—1	History of Language and Literature ..	150
Third day ...	10—1	Sanskrit Text-books ..	100
		Total ...	600

Vidvan—Preliminary.

For Part D in Regulation 7 of Chapter LVII

Days.	Hours	Subjects.	Marks.
First day...	10—1	Prescribed Text-books in Poetry & Prose	200
	2—5	Prescribed Text-books relating to Grammar ...	200
Second day...	10—1	Composition ...	100
Third day ...	10—1	History of Tamil Country ...	100
		Total ...	600

Vidvan—Final.

For Part D in Regulation 7 of Chapter LVII

Days.	Hours.	Subjects.	Marks.
First day...	10—1	Prescribed Text-books in Poetry I ...	150
	2—5	Prescribed Text-books relating to Advanced Grammar, Prosody and Poetics I	150
Second day	10—1	Prescribed Text-books in Poetry II ...	150
	2—5	Prescribed Text-books relating to Advanced Grammar, Prosody and Poetics II ...	150
Third day	10—1	History of Language and Literature ...	100
	2—5	Inscriptions ...	100
		Total ...	800

Afzal-ul-Ulama—Preliminary.

Days	Hours	Subjects	Marks
First day ...	10—1	Tafsir and Hadîth ...	100
	2—5	Fiqh, 'Aqâ'id and Mantiq ...	100
Second day...	10—1	Prose Text-books ...	100
	2—5	Poetry Text books ...	100
Third day ...	10—1	History ...	100
	2—5	Translation from Arabic into Urdu and *vice versa* ...	100
		Total ...	600

Afzal-ul-Ulama—Final.

First day ...	10—1	Tafsir, Hadîth and 'Ilmul-Hadîth ...	100
	2—5	Fiqh and 'Usul'-ul Fiqh ...	100
Second day...	10—1	Prose Text-books ...	100
	2—5	Poetry Text-books ...	100
Third day ...	10—1	History ...	100
	2—5	Translation from Arabic into Urdu and *vice versa* ...	100
Fourth day...	10—1	Mantiq and Balâghat ...	100
	2—5	Composition in Arabic ...	100
		Total ...	800

Munshi-i-Fazil—Preliminary.

Days	Hours	Subjects	Marks
First day ...	10—1	Persian Text-books ...	100
	2—5	Urdu Text-books ...	100
Second day ...	10—1	Translation from Persian into Urdu ...	100
	2—5	Translation from Urdu into Persian ...	100
Third day ...	10—1	Composition in Persian ...	100
	2—5	Arabic Text-books ...	100
		Total ...	600

Munshi-i-Fazil—Final.

First day ...	10—1	Persian Text-books ...	100
	2—5	Urdu Text-books ...	100
Second day...	10—1	Translation from Persian into Urdu ...	100
	2—5	Translation from Urdu into Persian ...	100
Third day ...	10—1	History of Persian Language and Literature ...	100
	2—5	Arabic Text-books ...	100
Fourth day...	10—1	Composition in Persian ...	100
		Total ...	700

CERTIFICATE OF PROFICIENCY

(A paper of three hours' duration to be answered on the morning of the day following the final examination for Titles.)

Fifth day ...	10-1	One of the subject mentioned in Regulation ...	100
		Total ...	100

DIPLOMA IN ECONOMICS AND IN MODERN EUROPEAN LANGUAGES.

Diploma in Economics.

Days	Hours	Subjects	Marks.
First day ...	10-1	Economics.	100
	2-5	Statistical Methods.	100
Second day...	10-1	Recent Economic History and Economic Geography.	100
	2-5	Rural Economics.	100
Third day ...	10-1	Social Economics.	100
	2-5	Special subject.	100
		Thesis	150
		Total ...	750

Diplomas in Modern European Languages.
(French and German.)

Day	Hours	Subjects	Marks.
First day ...	10-1	Text-books and Grammar.	100
	2-4	Translation.	100
		Total ...	200

Certificate in Librarianship.

Days.	Hours.	Subjects.	Marks.
First day ...	10—1	Written Examination—Theory ...	60
	2—5	Practical Examination	40
		Total ...	100

Diploma in Indian Music.

Days.	Hours.	Subjects.	Marks.
First day ...	10—12	Indian Music—Theory—Written Examination ...	60
Time and date will be specified later.		Indian Music—Practical Examination ...	90
		Total ...	150

Diploma in Geography.

Days.	Hours.	Subjects.	Marks.
First day ...	10—1	Physical Basis of Geography, including the elements of Meteorology, Oceanography and Geomorphology ...	100
	2—5	General Regional Geography of the World ...	100
Second day.	10—1	General Regional Geography I—Asia ...	100
	2—5	General Regional Geography II—Prescribed Continent ...	100
Third day ...	10—1	Optional subject :— Historical and Political Geography, *or* Economic Geography, *or* Bio-Geography and Anthropo Geography ...	100
	2—5	Practical use of instruments, map-making, map-reading and map-correlation ...	100
		Dessertation (Thesis to be submitted by the candidates by the 15th May in each year after the examination) ...	200
		Total ...	800

APPENDIX I.

MATRICULATION EXAMINATION

(*a*) SYLLABUS

Detailed Syllabus in Theoretical Geometry

Angles at a point.—If a straight line stands on another straight line, the sum of the two angles so formed is equal to two right angles and the converse.

If two straight lines intersect, the vertically opposite angles are equal.

Parallel straight lines.—When a straight line cuts two other straight lines, if

(i) a pair of alternate angles are equal, or

(ii) a pair of corresponding angles are equal, or

(iii) a pair of interior angles on the same side of the cutting line are together equal to two right angles, then the two straight lines are parallel; and the converse.

Straight lines which are parallel to the same straight line are parallel to one another.

Triangles and rectilinear figures.—The sum of the angles of a triangle is equal to two right angles.

If the sides of a convex polygon are produced in order, the sum of the angles so formed is equal to four right angles.

If two triangles have two sides of the one equal to two sides of the other, each to each, and also the angles contained by those sides equal, the triangles are congruent.

If two triangles have two angles of the one equal to two angles of the other, each to each, and also one side of the one equal to the corresponding side of the other, the triangles are congruent.

If two sides of a triangle are equal, the angles opposite to these sides are equal; and the converse.

If two triangles have the three sides of the one equal to the three sides of the other, each to each, the triangles are congruent.

If two right-angled triangles have their hypotenuses equal, and one side of the one equal to one side of the other, the triangles are congruent.

If two sides of a triangle are unequal, the greater side has the greater angle opposite to it; and the converse.

Of all the straight lines that can be drawn to a given straight line from a given point outside it, the perpendicular is the shortest.

The opposite sides and angles of a parallelogram are equal; each diagonal bisects the parallelogram, and the diagonals bisect one another.

If there are three or more parallel straight lines, and the intercepts made by them on any straight line that cuts them are equal, then the intercepts made by them on any other straight line that cuts them are also equal.

Areas.—Parallelograms of the same altitude on the same or equal bases are equal in area.

Triangles of the same altitude on the same or equal bases are equal in area.

Equal triangles on the same or equal bases are of the same altitude.

Illustrations and explanations of the geometrical theorems corresponding to the following algebraical identities:—

$$k(a+b+c+\ldots)=ka+kb+kc+\ldots,$$
$$(a+b)^2=a^2+2ab+b^2,$$
$$(a-b)^2=a^2-2ab+b^2,$$
$$a^2-b^2=(a+b)(a-b),$$
$$(a+b)^2-(a-b)^2=4ab,$$
$$(a+b)^2+(a-b)^2=2a^2+2b^2.$$

The square on a side of a triangle is greater than, equal to, or less than the sum of the squares on the other two sides, according as the angle contained by those sides is obtuse, right or acute. The difference in the cases of inequality is twice the rectangle contained by one of the two sides and the projection on it of the other.

Loci.—The locus of a point which is equidistant from two fixed points is the perpendicular bisector of the straight line joining the two fixed points.

The locus of a point which is equidistant from two intersecting straight lines consists of the pair of straight lines which bisect the angles between the two given lines.

The locus of the vertices of all triangles which have the same base and the sum of the squares of their sides equal to a given square is a circle having its centre at the middle point of the base.

The locus of the vertices of all the triangles which have the same base and the difference of the squares of their sides equal to a given square is a straight line perpendicular to the base.

The locus of the vertices of all the triangles which have the same base and their vertical angles equal to a given angle is the arc of a segment of a circle.

The Circle—A straight line drawn from the centre of a circle to bisect a chord which is not a diameter, is at right angles to the chord; conversely, the perpendicular to a chord from the centre bisects the chord.

There is one circle and one only, which passes through three given points not in a straight line.

In equal circles (or, in the same circle) (i) if two arcs subtend equal angles at the centres, they are equal; (ii) conversely, if two arcs are equal, they subtend equal angles at the centres.

In equal circles (or, in the same circle) (i) if two chords are equal, they cut off equal arcs; (ii) conversely, if two arcs are equal, the chords of the arcs are equal.

Equal chords of a circle are equidistant from the centre; and the converse.

The tangent at any point of a circle and the radius through the point are perpendicular to one another.

If two circles touch, the point of contact lies on the straight line through the centres.

The angle which an arc of a circle subtends at the centre is double that which it subtends at any point on the remaining part of the circumference.

Angles in the same segment of a circle are equal; and if the line joining two points subtends equal angles at two other points on the same side of it, the four points lie on a circle.

The angle in a semi-circle is a right angle; the angle in a segment greater than a semi-circle is less than a right angle; and the angle in a segment less than a semi-circle is greater than a right angle.

The opposite angles of any quadrilateral inscribed in a circle are supplementary; and the converse.

If a straight line touch a circle, and from the point of contact a chord be drawn the angles which the chord makes with the tangent are equal to the angles in the alternate segments.

If two chords of a circle intersect either inside or outside the circle, the rectangle contained by the parts of the one is equal to the rectangle contained by the parts of the other; and the converse.

Elementary Science (1) Physics, (2) Chemistry

The examination shall test whether the subjects included in the following syllabus have been taught by the aid of experimental demonstrations—wherever this is possible. The application of physical and chemical facts and principles to experience in ordinary life should receive particular attention.

It is desirable that, as far as the accommodation and equipment of the school will allow, pupils receive practical instruction in the physical and chemical processes included in the syllabus.

1. *Physics.*—Measurement of length. Meaning of a unit and the measurement of a physical quantity. British and metric units; their multiples and sub-multiples. Derived units of area and volume. Measurement of area and volume.

Measurement of time. Unit of time. Rotation of the earth. Measurement by simple pendulum.

Speed: its measurement involving length and time; calculation of speed in given cases. Elementary ideas regarding acceleration. Illustration of First Law of Motion; definition of force.

Matter: definitions. Measurement of mass. British and metric unit; determination of mass by spring balance, and by ordinary balance. Density and specific gravity.

Gravitation. All matter attracted by the earth; illustration of Second Law of Motion: attraction is mutual: illustration of Third Law of Motion: Universality of gravitation. Weight of a body. Distinction between mass and weight.

Properties of matter. Extension, inertia, gravitation, divisibility, porosity, hardness, elasticity, transparency and opacity. Cohesion: ductility, malleability, brittleness: plasticity, viscosity. The three states of matter. Changes of state produced by heating and cooling. Permanent and temporary effects of heating different substances: effects on organic substances: tempering of metals.

Simple machines. The lever: its general principle and application to the common balance, and the wheel and axle. The pulley and the inclined plane: application of the screw.

Centre of gravity; definition. Experimental determination of centre of gravity in simple cases. Condition of equilibrium of a body resting in a given position; stable, unstable and neutral equilibrium. The common balance; how mass is measured by weighing.

Solids: permanence of shape and volume which are only altered by application of forces.

Liquids: no permanent shape. Surface of liquid at rest horizontal. Pressure defined. In fluids, it acts in all directions and is greater at greater depths. Transmission of pressure and its evaluation. Bramah Press. The principle of Archimedes; its experimental proof and applications.

Gases: how distinguished from liquids. Gases have weight. Balloons, Pressure of the atmosphere; the mercury barometer; variation of atmospheric pressure with height proved by mercury barometer; the water barometer. Evaluation of pressure of atmosphere by means of barometer, applications. Air-pump; Water pump. Pressure of a gas: Boyle's Law.

Temperature. Liquids expand by heat; the special case of water. Thermometer used for measuring temperature by observing change of volume of liquid. The mercury thermometer; method of graduating; determination of fixed points; fundamental interval; the Centigrade and Fahrenheit scale. Thermal expansion of solids, liquids and gases.

Distinction between heat and temperature. Heat as a quantity and how it may be measured; the thermal unit; specific heat. Changes of physical state due to heat. Fusion and latent heat of fusion; evaporation and ebullition and latent heat of evaporation. Water vapour present in the atmosphere and determination of its amount. Cooling produced by solution and evaporation; freezing mixtures. The conduction and convection of heat; convection currents in the atmosphere and ocean; the trade winds; land and sea breezes and gulf stream. The circulation of water vapour in the atmosphere, clouds, rain.

Light. Rectilinear transmission. Rays and pencils of light, shadows, etc., produced by different sources, and images of sources produced by pin-holes. The laws of reflection of rays of light; reflection of pencils by plane mirrors and images formed by plane mirrors. Direct reflection of pencils from concave spherical mirrors; experimental proof of law of distances. The laws of refraction of rays of light; refraction of rays through a plate and a prism. Refraction through a convex lens; experimental proof of law of distances; the principal focus of a lens. Image formed by a convex lens; the simple microscope: the photographic camera; the telescope. Analysis of white light by a prism; the method of producing, and order of colours in the spectrum. The spectrum of sun-light, and of candle light. Recombination of the colours of the spectrum into white light.

Electrification by friction; positive and negative electrifications. Laws of attraction and repulsion. Conductors and non-conductors. Simple voltaic cell; Grove's cell. Electric current. Magnetic effects of currents in straight and coiled wires. Simple galvanometer. Heating effects of currents. Simple facts of electrolysis.

Magnetic substances. Laws of magnetic attraction and repulsion. Magnetic induction. Methods of magnetization.

Graphic representation by use in squared paper of the relation between any two of the physical quantities referred to in the syllabus.

2. *Chemistry.*—Examples of mixtures and solutions; (1) sand and sugar, (2) sulphur and iron filings, (3) sand and sal-ammoniac, (4) copper sulphate and water. Explanation of the process of separating the ingredients of these mixtures, filtration, decantation, mechanical or magnetic separation, evaporation, distillation, sublimation.

Chemical compounds. Characteristic differences between compounds and mixtures; illustrations.

Chemical combination illustrated by (1) candle burning in air, (2) sulphur burning in air, (3) magnesium wire burning in air, (4) quicklime combining with water.

Chemical decomposition illustrated by (1) heating mercuric oxide, (2) action of sodium on water, (3) heating potassium chlorate, (4) heating lead nitrate.

Iron in contact with air and water is converted into rust. Rusting is oxidation. Copper, lead, mercury, magnesium, sulphur and phosphorus also oxidize; but their oxidation takes place at different temperatures. Rapid oxidation. Combustion of candle; the products of the combustion are heavier than the candle itself. One of these products is a gas which turns limewater milky and it is the same product which is obtained when charcoal burns in air. Water is another product of the combustion. Similar observation may be made and similar conclusions deduced when oil burns in air. Structure of a candle flame.

The rust or oxide is always heavier than the substance from which it is formed. When a substance (*e.g.*, iron or phosphorus) oxidizes in a confined volume of air about one-fifth of the air ultimately disappears. Remaining air is inactive (*e.g.*, candle will not burn in it.) Composition of air: air has two components: active (oxygen) and inactive (nitrogen).

Oxygen; its discovery; its mode of preparation and properties. Oxides; products formed when a candle, charcoal, sulphur, phosphorus, sodium or iron burns in oxygen. Burning in oxygen and air compared. Illustration of acid and alkaline properties.

Hydrogen produced by the action of sodium on water. Products of the decomposition. Same gas is produced when dilute sulphuric or hydrochloric acid acts on zinc, or on iron. Properties of hydrogen: its density and its combustion with air or oxygen. Water the sole product of their combustion.

Elements and compounds: Two ways of determining the composition of compounds (i) by synthesis, (ii) by analysis; illustrated by the case of water. Synthesis of water (i) by burning hydrogen in air or oxygen, (ii) by passing hydrogen over heated copper oxide. Analysis or decomposition (i) by action of sodium on water, (ii) by passing steam over red-hot iron filings, and (iii) by electric current. Composition of water by weight and by volume. Constancy of composition of chemical compounds illustrated by the case of water. Solvent action of water: crystallization, forms of crystals, water of crystallization. Solubility of gases in water, carbonic acid gas, air, and oxygen. Soda-water, spring, river, well, and sea-water. Suspended and dissolved impurities. Purification by distillation. Extraction of salt from sea-water by evaporation: salt pans.

Carbon; the different forms in which it occurs, their properties and uses. Carbon burnt in air or oxygen produces carbon dioxide. This gas is always formed when candles, oil, etc., burn. Its preparation and properties. Action on lime-water. Exhaled by living animals; action of plants on carbon dioxide. Solution of carbon dioxide in water and properties of the solution. Hard and soft water; permanent and temporary hardness. Methods of softening hard water.

Nitrogen, the inactive constituent of air; preparation and properties. Two of its important compounds, viz., nitric acid and ammonia.

(*a*) Nitric acid, its preparation from nitre and sulphuric acid. Its properties; power of dissolving copper and mercury and many other metals. Relations between acids, bases and salts illustrated by (1) nitric acid and caustic soda, (2) magnesium oxide and sulphuric acid, (3) lime and hydrochloric acid.

(*b*) Ammonia, its preparation and properties. Solubility in water; power of neutralizing acids and forming salts, such as ammonium chloride and nitrate; behaviour of these salts on heating.

Hydrochloric acid and chlorine. Treatment of common salt with sulphuric acid and production of hydrochloric acid gas. Properties of this gas; solubility in water. Production of chlorine from hydrochloric acid and manganese dioxide. Its properties; its power of combining with hydrogen and with metals, such as antimony, to form chlorides. Bleaching action of chlorine.

Sulphur; the different forms; their properties. The changes induced by heat—when burnt in air or oxygen produces sulphur dioxide. Sulphuric acid—its properties and uses.

Phosphorus; the different forms, their properties and uses.

Silicon; occurrence in nature. Chief compound silica. Occurrence of silica in nature, free and combined as silicates. Chief forms of silica, quartz, sandstone, flint.

Metals and non-metals, their general properties.

Sodium and potassium; their occurrence and properties. Distinguishing properties of the alkali metals; their more important compounds; common salt, Glauber's salt, washing soda, sodium bicarbonate, caustic soda, potassium carbonate, potassium chlorate, caustic potash, saltpetre, potassium permanganate. Gunpowder.

Calcium. Chief compound calcium carbonate. Its occurrence and various forms. Limestone burnt into lime in limekilns. Slaked lime. The use of lime in making mortar and plaster. Calcium sulphate; gypsum and plaster of Paris.

The occurrence, general method of preparation, properties and uses of the following Metals:—

Zinc, iron, copper, mercury, lead and silver. Their chief oxide and their salts which have been used or produced in experiments and illustrations included in the above syllabus.

Syllabus for the History of Great Britain and Ireland

Pre-Norman Period.—The early inhabitants of Britain: their modern descendants; what languages they speak; where they live. The Roman occupation; Agricola. The coming of the English; their original homes; their chief tribes. The conversion of the English. Celtic and Roman Christianity; the supremacy of the latter; reasons and results. The struggle for supremacy between the Heptarchy Kingdoms: the supremacy of Wessex. The coming of the Northmen: who they were; the results of their coming. The struggle between Wessex and the Northmen: the victory of Wessex. Alfred: Athelstan: Edgar: Dunstan. The Danish conquest: reasons: Canute. The English line restored.

The Norman and early Plantagenct Period.—The Norman conquest; its causes and effects. Character of the Norman kings and of their rule. Feudalism. The opposition of the baronage to the royal power. The anarchy of Stephen's reign. Order restored by Henry II. His aims: his quarrel with Becket: reasons and results. The Reforms of Henry II. His foreign possessions; extent. His quarrel with the barons. The loss of Normandy: its effects. The baronage of a national party; struggle with John; the Great Charter. The weak rule of Henry III; subservience to

the Papacy: foreign favourites. The baron's war: Simon-de-Montfort, his character and aims. Revival of the monarchy under Edward I; effect of the baronial war seen in his reforms. The beginning of Parliament. The conquest of Wales, the attempted conquest of Scotland and France. Edward II's reign. Bannockburn: temporary supremacy of the baronial party.

The later Plantagenets.—Edward III's reign. The Hundred Years' War: causes: Sluys: Crecy: Poitiers: the treaty of Bretigny: the Black Prince. Increased power of the Parliament. Social and economic changes: the Black Death: its results. Wat Tyler: the peasants' rebellions. The attempted autocracy of Richard II; his overthrow. Literary activity; Langland, and Chaucer. The Lancastrian kings, the strength of Parliament at the beginning. Beginning of dynastic troubles. Early religious reforming movement; Wycliffe: the Lollards. Rebellions against Henry IV. Renewal of the Hundred Years' War: reasons: Havre, Agincourt: the treaty of Troyes. The minority of Henry VI; failure in the Hundred Years' War; reasons; close of Hundred Years' War: effects. Renewed social troubles. Outbreak of dynastic Wars of the Roses: causes: chief events. Warwick, the King-maker. The Yorkist Dynasty: its character and aims; reasons for its power. The effects of the Hundred Years' War on English political, commercial and social life.

The Tudor Period.—The strength of the Tudor possession of the throne. Their despotic rule. The overthrow of rival claimants. The final suppression of the old baronage. The creation of a new subservient baronage. The need for peace. Henry VII's Policy. Henry VIII's character. The career of Wolsey: foreign policy. Ecclesiastical reform: the Reformation in England: its causes. The overthrow of the Papal authority. The phases of the Reformation in England under Henry VIII. Edward VI, Mary and Elizabeth. Comparison with Continental Reformation: Luther and Calvin. Social results of the Reformation: the rebellions under Edward VI: Elizabeth's poor law. The jealousy of England and Spain: causes; English navigators; the development of English commerce. Elizabeth's foreign policy: the war with Spain: its results. Literary activity of the sixteenth century: its connection with the Reformation and the Renaissance. The three religious parties under Elizabeth: the Roman Catholics: the Anglicans: the Puritans: their aims and characteristics: chief sects of Puritans. The Anglicans supreme: policy of uniformity: absence of idea of toleration. The Puritans and royal political supremacy.

The Stuarts.—Kings and Parliament. The difference between the absolutism of the Tudors and the Stuarts. Suppression of the Roman Catholics: attempted suppression of the Puritans by James I. Growing hostility to royal power: the influence of Puritanism in the party of opposition. The chief points of dispute between the Crown and Parliament. The failure of Charles I's foreign policy: increased opposition met by further claims of the prerogative. The Petition of Right.

Temporary victory of the Crown. Renewed opposition over ship-money and Laud's religious policy. The Bishops Wars. Summons of Parliament. Early acts of Long Parliament. Outbreak of War: immediate and remote causes. Chief events of the war. The victory of the Parliament; reasons. Breach between the Parliament and the Army. The execution of Charles I. The Commonwealth: rule of Puritan minority. Cromwell in Ireland and Scotland. The Protectorate: Cromwell's character and aims. Reasons of his success and of the failure of his system. The Restoration: why possible. Net gains of the Rebellion. Puritan Literature: Milton: Bunyan. The despotic and catholic policy of Charles II and James II: the ministers of Charles II: his French intrigues. The Whigs and Tories: their respective aims. The Exclusion Bill. Temporary triumph of absolutism. Its overthrow at the Revolution: James' rashness compared with Charles' discretion.

The Bill of Rights: the triumph of Parliament. James II in Ireland: William III and Scotland. The beginnings of Party Government under William III and Anne: the unscrupulousness of party politicians: Harley: St. John: Marlborough. The reforms of William III: the Act of Settlement. The wars with France: causes. Marlborough as a general: the chief battles of the war. The treaty of Utrecht: English colonial gains.

The Hanoverian Period.—The Whig supremacy: Reasons for the discredit of the Tories. The 1715 rebellion. The rise and power of Walpole: his policy and methods. The establishment of Party Government with Prime Minister and Cabinet. The reasons for Walpole's long tenure of Office. The rise of an opposition. The Family Compact: hostility with Spain and France: reasons. Overthrow of Walpole. Whig supremacy continued with a war policy. The rise of the elder Pitt. The war of the Austrian succession: England's share in it; Colonial rivalry of France and England. The Seven Years' War: its phases: chief events. English gains in 1763. Pitt as a popular minister: his character and aims. The colonial policy of Pitt's successors: the loss of the American colonies. Chief events. Overthrow of the Whig supremacy; reasons for the weakness of the Whig party. Final check to royal control of politics.

II. *The Revolutionary Period.*—The Tory rule of the younger Pitt. Internal reforms and domestic policy of Pitt: comparison with the policy of Walpole. The outbreak of the French Revolution: Pitt forced into war. The revolutionary and Napoleonic wars: Chief events on sea and land. Death of Pitt: his character.

Nelson and Wellington: their careers and characters. Reasons for the success of England at sea. The role played by England in resisting the Napoleonic schemes. The downfall of Napoleon. Religious and literary activities of the period: Wesley, Burke. The industrial development: its nature and causes.

The 19th Century.—(1815—1902) : The influence of the French Revolution in England. The great period of reform. Economic and social evils: their causes and remedies: riots: socialist movement: the Chartists: the repeal of the corn laws: Sir Robert Peel: Cobden and Bright and free trade: factory laws: the spread of education. Political reform: the extension of the franchise: Cabinet government: municipal reforms. Great ministers of the period: Russell: Palmerston: Disraeli: Gladstone; Salisbury. Colonial expansion during the period. Wars of the period; mainly frontier and colonial: the Crimean war: the Boer war: causes: results and chief events. The life and influence of Queen Victoria. Great poets and novelists of the century.

Syllabus in Indian History

The Pre-Mussalman Period:—

1. Physical configuration of India. Distribution of land and water: mountains, rivers and the sea. Position in relation to the rest of the world. Historical consequence of the foregoing.

2. The aboriginal and non-Aryan races.

3. The Indo-Europeans (so-called Aryans). Their immigrations and settlement. Aryan culture. Social and economic conditions. Caste (till circa 500 B.C.).

4. Social, economic, religious and political conditions in the sixth century B.C. Jainism and Buddhism. The growth of the kingdom of Magadha.

5. The satrapy of Darius (circa 500 B.C.). The invasion of Alexander. Its consequences and results.

6. Break-down of local independence. The Mauryan empire. Chandragupta. Asoka. Social, religious and economic conditions under the early Mauryans.

7. The disruption of the Mauryan empire. Rivalry between Brahmanism, Buddhism and Jainism and the Prakrit dialects and Sanskrit. The Sunga, Kanva and Andhra dynasties (circa A.D. 250).

8. Foreign influences, invasions and immigrations, Indo-Greek, Indo-Bactrian, Indo-Parthian, and Indo-Scythian dynasties. Revival of Buddhism. Kanishka's empire. Græco-Roman influence. The Great Satraps of the West. Religious and social conditions (till circa A.D. 300).

9. The Gupta dynasty and empire. Brahmanic revival. Literary activity. Religious and social conditions. Fa Hian.

10. The Huns, break up of the Gupta Empire.

11. The reign of Harshavardhana. Social, economic and religious conditions (till circa A.D. 650). Hiouen Thasank. The early Chalukyan empire in the Dekhan. The Pallavas in South India.

12. Minor local dynasties in North India—Kabul, Punjab, Sindh: Magada, Kanouj, Delhi: Behar and Bengal: Bundelkhand and the Central Provinces: Ajmir, Malwa and Gujarat.

13. The empire of the Dekhan to circa A.D. 1300—The early Chalukyas, the Rashtrakutas, the later Chalukyas and the Yadavas of Devagiri.

14. The South Indian supremacy. The Pallavas. The Chola supremacy. Cheras and Pandyas. The Hoysalas and the Kakatiyas. Economic and social conditions. Dravidian literary and religious activity.

Mediæval India (to circa 1761):

1. Early Muhammadan invasions.

2. Mahamud of Ghazni, Mahamud Ghori. The Slave, Khilji and Tuglakh, Shahi dynastics, Social, religious and literary conditions (circa A.D. 1400).

3. Break up of the empire of Delhi. Local Muhammadan dynasties in Jaunpur, Bengal, Malwa and Gujarat.

4. The Bahmini Kingdom of the Dekhan: its break up, 1526: final conquest and absorption by the Mughal Empire.

5. History of the empire of Vijayanagar till A.D. 1565. The successors of Vijayanagar to circa 1750.

6. Rajputana till A.D. 1556.

7. The Great Mughals 1526-1707.

8. The Marathas to 1714.

9. Routes of Indo-European trade. The Saracen conquests, and the results in Indo-European commerce. The age of discovery. The Portuguese in India. Albuquerque. Causes of the decline of Portuguese power in India (till circa 1600).

10. The decline of the Mughal empire, 1707-1761. The Maratha conquests, 1714-1761. Rise of the Sikhs. Panipat.

Modern India (down to the death of the Queen-Empress).

1. Importance of sea power in Indian History. Early English attempts to reach India. Rivalry between the Dutch and the English till 1623. The French in India till 1741.

2. The Karnatic Wars. Dupleix and Clive. French supremacy in South India. The English in Bengal. The Black Hole tragedy. Plassey. Final French attempts. Coote and Lally (till 1761).

3. The administration of Bengal, 1758-1771.

4. Rise of Haidar Ali. The First Mysore war, The revival of the Maratha confederacy. Madhava Rau, Peshwa (till 1772).

5. Warren Hastings.—English politics and Indian affairs (1748-72). The Regulating Act. Rohillas. Benares. The first Maratha and second Mysore wars. Effects of the American war. Suffren on the Indian seas. The First Armed Neutrality. Successful end of Hastings' administration. His work. Pitt's India Bill.

6. Cornwallis and Sir John Shore.—The Mysore war. Economic and administrative reforms. The policy of non-intervention.

7. Wellesley.—England and revolutionary France. War with Tippu. The second Armed Neutrality. The battle of Aboukir Bay. The Subsidiary System. Second and third Maratha wars. Minor reforms. Wellesley's work.

8. Cornwallis and Minto. Administrative reforms. Conference of Tilsit. Capture of Java.

9. Marquess of Hastings and Lord Amherst. Ghurka war. The Pindari war. Last Maratha war. Extinction of the Peshwaship. First Burmese war. The Bhartpur affair. Internal affairs.

10. Bentinck.—His reforms.

11. Auckland and Ellenborough.—Rise and history of Ranjit Singh. Afghanistan and the Punjab. The first Afghan war and the 'avenging expedition.' Conquest of Sindh. Gwalior affairs.

12. Hardinge and Dalhousie.—The first and second Sikh wars. Annexation of the Punjab. The second Burmese war. The 'doctrine of lapse.' Dalhousie's annexations. Railway and Telegraph.

13. Canning.—The Mutiny, Canning's clemency. The Queen's proclamation. India under the Crown. Financial and Military reforms.

14. India under the Crown to the death of the Queen Empress Victoria.

Geography.

I.—Southern Continents.

Australia.

1. Relief and Rivers of Australia.

2. Climate of Australia. The seasonal distribution of temperature and rainfall.

3. Vegetation and animals; relation between rainfall and natural vegetation regions of Australia; peculiarity of its animal life.

4. Life and work of the people with special reference to (*a*) East Coast Region, (*b*) Murray-Darling Basin, (*c*) Mediterranean regions of West Australia and Victoria.

5. Favourable position for trading with lands around the Pacific and Indian Oceans.

Africa.

6. Structure—effect upon the coastline, rivers and lakes of Africa, relief and drainage.

7. Climate and vegetation of Africa; apparent seasonal migration of the sun and the duplication of climatic and vegetation belts North and South of the Equator.

8. Chief Natural Regions of Africa.

9. Peoples of Africa.

10. Trade routes of the Indian Ocean.

South America.

11. Structure and relief; rivers.

12. Climate and vegetation of South America; the effect of a mountain barrier, of a cold current and of altitude upon rainfall and temperature; Andean Zones.

13. Peoples and States of South America; the importance of minerals in the past and present development of the continent.

14. Temperate countries of South America—Argentina, Uruguay and Chile.

15. Tropical countries of South America—Brazil—the world's chief Storehouse of tropical products.

16. Revision of the three southern continents.

II.—North America.

1. Structure and relief; the work of rivers as illustrated on a large scale by the Colorado and Mississippi and as seen by actual observation of local streams.

2. Climate and vegetation; factors that modify climate as evidenced in North America; natural regions of North America.

3. Population and political divisions; Immigration.

4. *United States*—

(a) North-eastern industrial and commercial region.

(b) South-eastern plantation region.

(c) Central farming region.

(d) The basins and mining regions of the Rockies.

(e) Pacific shorelands—fruit, grain, timber and minerals.

5. *Dominion of Canada and Newfoundland*—

(a) Eastern Canada—agriculture, dairying, timber, fisheries, mining and manufacture.

(b) Prairie provinces.

(c) British Columbia.

6. Mexico, Central America and West Indies.

7. Transport and communication of North America and important links in round-the-world routes.

III.—Eurasia and India.

1. Surface, relief and rivers of Eurasia.

2. Climate of Eurasia ; the major climatic regions, comparison of temperature; conditions on east and west margins ; effect of latitude and distance from the sea on range of temperature, causes of monsoons and their effect on climate of South-east Eurasia.

3. British Isles ; relief ; influence of the sea and the climate upon the life and activities of the people ; fisheries and farming ; the chief industrial regions and their outlets.

4. Western Mainland of Europe.—France—agriculture and industry ; position of Paris and Marseilles. Belgium—plain of Flanders and the Sambre-Meuse Valley. Holland—a delta land reclaimed from the sea ; its colonies and sea trade. Denmark—co-operative dairy farming. Germany—plain and plateau, forestry and development of special industries ; industries of the Ruhr and Saxon coalfields.

5. Baltic Region—the new border states, Scandinavian peninsula —forestry and woodwork of Sweden.

6. Central Highlands of Europe ; Czecho-Slovakia—its minerals and industries ; agriculture of the Mid-Danubian plain. Alpine region—development of hydro-electric power and effect on industrial development.

7. Mediterranean region—influence of climate on plant adaptation and fruit culture. Spain—its mineral wealth but lack of coal. Italy—alluvial plain of Lombardy and its industrial development—peninsular Italy.

8. South-western lands of Asia—region of plateau and deserts with one important alluvial plain ; its historical importance as a highway.

9. Central and Northern Eurasia—rich wheat and pasture lands of Rumanian and Russian plains—desert conditions of the Aral Sea Basin; tundra, taiga and steppe of Siberian plain, contrast development of this region with similar region in North America.

10. China—her dependencies. Effect of climate and relief upon occupations and industries.

11. Japan. A mountainous country, yet productive; agricultural, mineral and industrial development—importance of Korea.

12. South-east Asia and the East Indies.

13. Position, relief, soils and minerals of India and Burma.

14. Climate of India; her chief climatic regions; means of irrigation.

15. Vegetation and animal life of India.

16. Peoples of the Indian Empire.

17. Survey of the Provinces and States—

(a) Mountain States.

(b) Great Plain.

(c) Plateau states and provinces.

(d) Madras.

(e) Bombay.

18. Occupations and Industries of India.

19. Trade, transport and seaports.

20. Ceylon.

IV.—The World.

1. Studies in climate—size and shape of the earth—movements of the earth, day and night, the seasons, annual and seasonal distribution of temperature, pressure, winds and rainfall, ocean currents, natural vegetation.

2. Regions of the world—

(1) Tundra and Ice-cap.

(2) The Cold Forests.

(3) Broad-leaved Forests.

(4) Temperate grasslands.

(5) Mediterranean Lands.

(6) Desert Lands.

(7) Equatorial forests and tropical grasslands.

(8) Monsoon Lands.

(9) Islands of the Pacific.

(10) High mountain and plateau.
(11) Industrial Regions of Europe.
(12) Industrial Regions of North America.
(13) Regions of the Empire.

Books recommended.

Text-Books—

(1) The New Regional Geographies--Book IV, The World, Leonard Brooks ; London University Press.

(2) Any one of the following :—

(a) India, World and Empire, Herbert Pickles ; Oxford University Press.

(b) Our World, Morrison ; Macmillan.

(c) *இந்திய ராஜ்யம் விம்மளம்*, Morrison and Subrahmanyam ; Macmillan.

(d) The Woild, Dudley Stamp; Longmans, Green & Co.

Reference books.—

(1) Physiography, Herbertson; Oxford University Press.

(2) Every one's Book of the Weather, Franco Williams, Sheldon Press.

(3) Out-door Geography, Hatch ; Blackie.

(4) Surface of the Earth, Pickles ; Cambridge University Press.

(5) Human Geography for Secondary Schools, Fairgrieve and Young ; G. Philip & Son.

(6) A Graded Course of Geography, E. S. Price ; G. Philip & Son.

(7) The Rambler Travel Books ; Blackie.

(8) The World, Howarth & Bridewell ; Oxford University Press.

(*b*) TEXT-BOOKS.

1935.

ENGLISH.

(1) *Text-book of which a detailed knowledge will be required.*

The Selections in English Poetry and Prose for the S.S.L.C. Public Examination of 1935, published by the University of Madras. (Copies are available at Messrs. E. M. Gopolakrishna Kone & Sons, 158-A, Broadway, Madras).

(2) *Text-books of which a detailed knowledge will not be required.*

(1) "Seven Wonders of the World and the Lands where they were built" by Wedgewood Heath (Revised edition), (Uttarchand Kapur & Sons, "Y.M.I.A. Buildings," Armenian Street, Madras).

(2) "Adventures in the Air" by Archer Wallace (Revised edition), (P.T.I. Book Depot, Bangalore).

HISTORY.

The following Special Periods in History of England and India are prescribed:—

(i) *In History of England*—(1) 1066 to 1485.

Text-book.—

An Advanced History of Great Britain, Book III, Part I by T. F. Tout (Messrs. Longmans, Green & Co., Ltd., Madras). Price, Rs. 2-6-6.

or

A new History of Great Britain, Part I by R. B. Mowat (Oxford University Press, Madras). Price, Rs. 1-9-0.

Reference books—

England in Early and Mediaeval times to 1485 by Robert M. Rayner (Messrs. Longmans, Green & Co., Limited, Madras). Price, Rs. 2-12-0.

State and Commons by Henry Allsopp, Volume I (now issued as Bell's Modern School Histories, Volume I (up to 1485), Messrs. Longmans, Green & Co., Limited, Madras). Price, Rs. 1-11-6.

The Ground Work of British History by Warner and Marten, Section I (Messrs. Blackie & Sons, Ltd., Madras). Price, 2-6-6.

(ii) *In History of India*—(3) The British India, 1600 to 1805.

Text-book.—

A History of India—The British Period—*The European Nations and India and the Rise of the Company to the Supremacy* by E. W. Thompson—Special edition (The Christian Literature Society, Park Town, Madras). Price, 8 annas.

Reference books—

A History of British India by P. E. Roberts, Part I. History to the end of the East India Company (Oxford University Press, Madras). Price, Rs. 2-12-0.

A History of India, Part III—India under the Company and the Crown by L. F. Rushbrook Williams (Longmans, Green & Co., Limited, Madras). Price, Rs. 3.

The making of British India (1766—1858) by Ramsay Muir (Manchester University Press), Messrs. Higginbothams, Ltd., Mount Road, Madras, and at their branch, 11, South Parade, Bangalore, Price, Rs. 5-10-0.

SANSKRIT, 1935.

*S.S.L.C. Selections in Sanskrit (Group A) for 1935 published by the University.

MARATHI, 1935.

Prose.—

Maharashtra Vanmaya—Praveshika Part II, Gadyavibhaga, pages 1—151, by G. G. Kanetkar, M.A.

Poetry.—

The following extracts from Navanit:—

Moropant—Kekavali.

Waman Pandit—Sphuta Shloka, pages 133—143.

Ekanath—Angada Shishhthai, pages 42—46.

N.B.—The above books can be had at New Kitab Khana, Poona City, or Messrs. Parachure Puranick and Company, 'Madhav Bagh', Bombay.

ORIYA, 1935.

*S.S.L.C. Selections in Oriya (Group A) for 1935 published by the University.

HINDI, 1935.

The same as for the S.S.L.C. Public Examination, 1935, (i.e.)—

For Detailed Study.—

Prose.—

Gadya-Ratnavali—compiled and edited by Shyam Sundar Das, B.A., 1932, (The Indian Press, Ltd., Allahabad).

The following portions only are prescribed:—

Author.	*Subject.*	*Pages.*
Rama Narayan Misra ...	Ranade Ke Desh sewa...	1 to 8
Jwala-datt-Sarma ...	Milan ...	41 to 58
Gaurishankar H. Ojha ...	Mahavana Pratap Singh.	102 to 105
Ramachandra Varma ...	Udashya and Lakshya...	106 to 125
Premchand ...	Bajrapat ...	126 to 140
Shyam Sundar Das ...	Surdas ...	154 to 162

Poetry.—

Padya Parijat compiled and edited by Keshava Prasad Misra and Pitambar Datt Barthwal (Published by the Nagari Pracharini Sabha, Benares).

***Copies of the Selections can be had from Messrs. E. M. Gopalakrishna Kone, Book-sellers, 158-A, Broadway, Madras.**

The following portions only are prescribed:—

Author.	*Subject.*	*Lines.*	*Pages.*
Maithilisaran Gupta.	Aya ka Upayoga and Parnakuti ke dwarpar Lakshman ...	262...	79 to 91
Gopalsaran Singh ...	Braya Barnan ...	80...	94 to 97
Siyaramsaran Gupta.	Ak Phul ke chah.	276...	98 to 111
Sumitra Nandan Panth.	Pratham Rashmi and Chaya (Omitting last six lines) ...	76 ...	115 to 118

For Non-detailed Study.—

Sakuntala Natak by Lakshman Singh (available at Hindi Prachar Sabha Office, Book Shop, Triplicane, Madras).

LATIN, 1935.

Cæsar: De Bello Gallico, Book I, Chapters 1—29.
Phædrus: Fables. Book I. (Macmillan's Elementary classics).

FRENCH, 1935.

La Fontaine: Fables 1—30.

Jules Verne: Cinq Semaines en ballon (Macmillan).

GERMAN, 1935.

Text-books will be prescribed, if required.

HEBREW, 1935.

Genesis, Chapters 1—9.

Psalms, 5—12.

ARABIC, AND PERSIAN, 1935.

ARABIC.

Prose and Poetry.—

At-Tariqatul Mubtakirah, Part IV.

PERSIAN.

Prose and Poetry.—

Farsi-ki-Tisri by Fazli Huq, M.A.

Note:—The above books are available at the Islamiah Book Depot, Kurnool.

TAMIL, TELUGU, KANARESE, MALAYALAM AND URDU.

*Selections for the S.S.L.C. Examination, Group A—1935—published by the University in the respective languages.

*Copies of the Selections can be had from Messrs. E. M. Gopalakrishna Kone, Book-Sellers, 158-A, Broadway, Madras.

APPENDIX II

INTERMEDIATE EXAMINATION IN ARTS AND SCIENCE.

(*a*) Syllabus

(1) MATHEMATICS.

In addition to the subjects prescribed for the Matriculation, the courses shall comprise Algebra, Plane Trigonometry and Geometry. A candidate shall be required to be acquainted with the use of logarithmic tables and to be able to solve questions by graphic methods, and to have an experimental knowledge of the simple geometrical solids and their sections.

(*a*) *Algebra.*—Algebraical laws and principles and their applications. Ratio and proportion. Theory of indices. Variation. Simple surds. Equivalence of system of equations. Solution of equations of the second degree in one or two variables and of equations of higher degree whose solution depends on them. Theory of the equation and expression of the second degree in one variable. The three progressions and other series whose summation depends on arithmetical and geometrical series. Interest and annuities. Permutations and combinations. The Binomial theorem for a positive integral exponent and direct applications of the theorem for any exponent. Elementary theory of logarithms and their applications to arithmetical computation. Problems on the above.

(*b*) *Plane Trigonometry.*—Measurement of Angles. Trigonometrical functions and their relations to one another. Solution of simple trigonometrical equations. Addition, multiplication and division formulæ. Properties of triangles and of the circles connected with them. Solution of triangles. Application of logarithms to trigonometrical computations. Measurements of heights and distances.

(*c*) *Geometry—Experimental.*—Construction of scales and their use. Construction of similar figures. Construction of the circumscribed, inscribed, escribed and other associated circles of triangles, and polygons. Constructions from data of triangles, quadrilaterals and polygons and their division in any given ratio. Areas of polygons and problems relating thereto.

Theoretical.—Ratio and proportion. Similar figures, Concurrence and collinearity. Properties of triangles, Properties of circles. Loci. Elementary maxima and minima. Proofs of the constructions in *Experimental Geometry*. Easy deductions.

DETAILED SYLLABUS IN THEORETICAL GEOMETRY.

N.B.—*The order in which the theorems are stated in this Syllabus is not imposed as the sequence of their treatment.*

Ratio and Proportion.—Definition and elementary theorems connecting the antecedents and consequents.

A given straight line can be divided internally in a given ratio at one, and only one point; and externally at one, and only one point.

A straight line drawn parallel to one side of a triangle cuts the other two sides, or those sides produced, proportionally; and the converse.

If the vertical angle of a triangle is bisected internally or externally, the bisector divides the base internally or externally into segments which have the same ratio as the other sides of the triangle: and the converse.

In equal circles, angles, whether at the centres or circumferences, have the same ratio as the arcs on which they stand.

Triangles and parallelograms of equal altitude are to one another as their bases.

If two triangles have one angle of the one equal to one angle of the other, their areas are proportional to the rectangles contained by the sides about the equal angles. Similarly for parallelograms having one angle of the one equal to one angle of the other.

Similar Figures.—If two triangles are equiangular their corresponding sides are proportional: and the converse.

If two triangles have one angle of the one equal to one angle of the other and the sides about these equal angles proportional, the triangles are similar.

Two triangles are similar, if the sides of the one are respectively parallel or perpendicular to the sides of the other.

If two triangles have two sides of the one proportional to two sides of the other, and an angle in each opposite one corresponding pair of these sides equal, the angles opposite the other pair are either equal or supplementary.

If from the right angle A of a right-angled triangle ABC, AD is drawn perpendicular to BC, then (1) AD is the mean proportional between BD and DC, (2) BA is the mean proportional between BD and BC and (3) CA is the mean proportional between CB and CD.

If two triangles are similar, their corresponding lines (such as medians, altitudes, inradii, etc.) are to one another in the ratio of their corresponding sides.

Similar triangles are to one another as the squares on their corresponding sides.

Two similar polygons can be divided into the same number of triangles similar to each other and similarly placed; and the converse.

The perimeters of two similar polygons are to each other as any corresponding sides.

Areas of similar polygons are proportional to the squares on corresponding sides.

Concurrence and Collinearity.—The use of signs as applied to lines, angles and areas. If two parallel lines are cut by three or more concurrent transversals, the corresponding segments are proportional; and the converse.

If X, Y, Z, are points in the sides BC, CA, AB of a triangle ABC, such that the perpendiculars to those sides at these points are concurrent, then

$$(BX^2-XC^2)+(CY^2-YA^2)+(AZ^2-ZB^2)=0\ ;$$

or

$$BX^2+CY^2+AZ^2=CX^2+ZB^2+AY^2,$$

and the converse.

If any transversal meets the sides BC, CA, AB of a triangle in D, E, F, then

$$AF.\ BD.\ CE=AE.\ CD.\ BF;$$

and conversely, if three points D, E, F taken on the sides BC, CA, AB of a triangle, satisfy the relation AF. BD. CE.=AE. CD. BF then D, E, F, are collinear.

If the lines joining any point to the vertices A, B, C of a triangle meet the opposite sides in D, E, F;

$$\text{then } AF.\ BD.\ CE=FB.\ DC.\ EA;$$

and conversely, if three points D, E, F, taken on the sides BC, CA. AB. of a triangle, satisfy the relation AF. BD. CE=FB. DC. EA. then AD. BE. CF. are concurrent.

If two unequal similar figures are similarly placed, the lines joining the vertices of one to the corresponding vertices of the other are concurrent.

Properties of Triangles.—The three medians of a triangle meet in a point, and this point is a point of trisection of each median, and also of the line joining the circumcentre to the orthocentre.

If D is a point in the side BC of a triangle ABC such that $BD=1|n$ BC, then

$$(n-1)\ AB^2+AC^2=n.\ AD^2+(1-1/n)\ BC^2.$$

The perpendiculars from the vertices of a triangle on the opposite sides meet in a point, and the distance of each vertex from the orthocentre is twice the perpendicular distance of the circumcentre from the side opposite to that vertex.

The circle through the middle points of the sides of a triangle passes also through the feet of the perpendiculars of the triangle and through the middle points of the three lines joining the orthocentre to the vertices of the triangle.

If a perpendicular drawn from the vertex to the base of a triangle is produced to meet the circumcircle, then the distance of this point of intersection from the base is equal to the distance of the orthocentre of the triangle from the base.

The feet of the perpendiculars drawn on the sides of a triangle from any point P on the circumcircle of that triangle are collinear.

The pedal line of P bisects the line joining P to the orthocentre of the triangle.

If the vertical angle of a triangle is bisected by a straight line which cuts the base, the rectangle contained by the sides of the triangle is equal to the rectangle contained by the segments of the base together with the square on the straight line which bisects the angle.

If from the vertical angle of a triangle a straight line is drawn perpendicular to the base, the rectangle contained by the sides of the triangle is equal to the rectangle contained by the perpendicular and the diameter of the circle described about the triangle.

Properties of Circles.—The locus of the points of intersection of tangents drawn at the extremities of chords of a circle which pass through a fixed point, is a straight line.

If the polar of A passes through B, then the polar of B passes through A.

If P and Q are any two points in the plane of a circle whose centre is O, then OP bears to OQ the same ratio as the perpendicular from P on the polar of Q bears to the perpendicular from Q on the polar of P.

The locus of points from which the tangents to two given coplanar circles are equal is a line perpendicular to the line of centres.

In two circles, if any two parallel radii are drawn (one in each circle), the straight line joining their extremities cuts the line of centres in one or other of two fixed points called (centres of similitude).

If through a centre of similitude of two circles, a line is drawn cutting the circles, the radii to a pair of corresponding points are parallel.

If through a centre of similitude S of two circles, a line is drawn cutting the circles, then the rectangle under the distances of one pair of non-corresponding points from S is equal to the

rectangle under the distances of the other pair of non-corresponding points from S; and each of these rectangles is constant.

In a cyclic quadrilateral the rectangle contained by the diagonals is equal to the sum of the rectangles contained by the opposite sides.

Loci.—If from a fixed point O a variable line is drawn, and in it points P, Q are taken, so that the ratio of OP to OQ is constant then (1) if P moves along a straight line, the locus of Q is a parallel straight line; (2) if P moves along the circumference of a circle, the locus of Q is a circle.

The locus of a point which is such that the rectangle under its distances from the equal sides of an isosceles triangle is equal to the square on its distance from the third side, is the circle which touches equal sides at the extremities of the third side.

If A, B are fixed points, and P a variable point, such that the ratio of PA to PB is one of constant inequality, then the locus of Q is a circle.

Given the base and vertical angle of a triangle, find the locus of (1) its incentre, (2) orthocentre, (3) centriod, (4) excentres.

If a triangle ABC of given species has one corner A fixed, another B always on a fixed line or circle, then the locus of C will be a line or circle.

Elementary Maxima and Minima.—When two sides of a triangle are given in length, the area of the triangle is greatest when they are placed at right angles.

The maximum triangle which can be inscribed in a given segment of a circle is that formed by joining the middle point of its arc to the extremities of its chord.

If A, B are two fixed points, and XY a fixed line; then for that point P in XY at which AP, BP make equal angles with XY,

(1) $AP \times PB$ is minimum, if A, B are on the same side of XY.

(2) $AP \times BP$ is maximum, if A, B are on opposite sides of XY.

If A, B are fixed points and P any point in a fixed line, the angle APB will be maximum, when the circle APB touches the fixed line.

Of all triangles having the same base and equal area the isosceles triangle has the minimum of perimeter.

The maximum of isoperimetric triangles on the same base is the one whose other two sides are equal.

Of all polygons having all sides given but one, the maximum can be inscribed in a semi-circle having the undetermined side as diameter.

Of all isoperimetric polygons of the same number of sides, the equilateral is the maximum.

If P is any point in a given straight line AB, AP, PB is maximum and AP^2+PB^2 is minimum when P is the middle point of AB; of all rectangles, of given area, the square has the minimum perimeter.

The maximum parallelogram which can be inscribed in a triangle by drawing parallels to two of its sides, is that formed by drawing the parallels from the middle point of the third side.

(2) PHYSICS.

Theory

No question shall be asked which cannot be answered by simple mathematical methods.

The course shall include a more detailed study of the matter included in the Matriculation syllabus and in addition the following:—

Dynamics.—The units of length and time. Displacement, speed, velocity and acceleration of a particle moving in a straight line. Newton's laws of motion; the units of mass and force. Motion of a particle in a straight line under the action of a force in that line. Motion under the action of gravity. Energy, work, power and their units; simple illustrations of the conservation of energy.

*Conditions of equilibrium of a body under three concurrent forces (the parallelogram law), and under parallel forces. Centre of gravity. Simple machines. The simple pendulum; determination of *g*.

Hydrostatics.—Pressure at a point in a fluid; definition and illustrations; transmissibility of pressure. Evaluation of pressure at a point in a heavy fluid at rest; its uniformity in all directions. Resultant thrust in simple cases. The principle of Archimedes, floating bodies, and hydrometers. Applications to practical determination of density and specific gravity. The pressure of a gas and its determination; the barometer. Boyle's law; air pumps and water pumps.

Heat.—Temperature and its measurement; the construction and graduation of thermometers. The thermal expansion of solids, liquids and gases and their accurate determination; the air thermometer. Heat as a quantity; the unit of heat, specific heat and the more direct methods of calorimetry. Laws of fusion, evaporation and ebullition; latent heat. Vapour pressure and how it is measured; hygrometers. Conduction

and convection of heat; thermal conductivity. Radiation; absorption and reflection; law of cooling. The dynamical equivalent of heat and its determination.

Light.—The experimental facts and laws of transmission, reflection and refraction of light; simple geometrical deductions from these, applicable to small direct pencils incident on plane and spherical surfaces, prisms and lenses. Applications to optical lantern, spectacle lenses, telescope and microscope. Total reflection. Dispersion of light; the spectrometer. Radiation and absorption spectra. Determination of refractive indices.

Magnetism.—Properties of magnets: poles. Laws of magnetic force; unit poles. Lines of force; uniform magnetic fields and experimental methods of comparing them. The earth's magnetic field; the compass. Magnetic induction; the magnetic properties of iron and steel.

Electricity.—The more common forms of voltaic cells and the actions that go on in the cells while producing a current. The action of currents on magnets; galvanometers depending on such action including suspended coil type. Metallic conductors and electrolytes; laws of electrolysis. Electromotive force; Ohm's law: resistance and simple methods of measuring *e.m.f.*, current and resistance; Wheatstone's bridge. Heating effects of current; fuses and lamps; Joule's law. The Electro-magnet and its simpler applications.

Sound.—The production and propagation of sound; the velocity of sound in air and its determination. Nature of wave motion and sound waves. Frequency of vibration; pitch. Amplitude of vibration; loudness. *Laws of vibration of strings and air columns. The reflection of sound; echoes.

N.B.—Asterisk* before a paragraph or a sentence means that for the topics included "only experimental proofs are required."

In the above the asterisk applies to the whole of para. 2 under Dynamics and to "Laws of vibration of strings and air columns" under Sound.

Practical Physics for the Intermediate course.

The following scheme is not exhaustive, but is intended to indicate the general nature and extent of the Course of Instruction in Practical Physics for the Intermediate Examination:—

Course of Instruction in Practical Physics.—

Measurement of lengths by millimeter scale, vernier, micrometer-gauge and spherometer.

Measurement of areas and volumes.

Verification of conditions of equilibrium of a body under coplanar forces.

Determination of the centre of gravity of a plate.

Verification of the law of a simple pendulum: determination of g.

The inclined plane.

Systems of Pulleys.

Use of a balance sensitive to ·01 gram.

Determination of volumes by weighing in water; determination of capacities of vessels.

Specific gravities of solids and liquids; hydrometers.

Reading Fortin's barometer and correcting for temperature.

Verification of Boyle's law.

Determination of fixed points of thermometer.

Determination of co-efficient of expansion of a rod.

Determination of co-efficient of apparent expansion of a liquid.

Expansion of air at constant pressure.

The constant volume air thermometer.

Curves of cooling.

Melting points.

Determination of specific heats of solids and liquids.

Latent heat of water and steam.

Determination of vapour pressures.

Boiling points.

Use of Regnault's (or Dine's) and wet and dry bulb hygrometers.

Comparison of thermal conductivities.

Radiation of heat from different surfaces.

Determination of the Mechanical Equivalent of heat.

Verification of the laws of reflection.

Tracing the path of a ray of light through a block of glass and deduction of refractive index.

Focal lengths of concave mirrors and convex lenses.

Arrangement of 2 lenses for telescope, microscope, and optical lantern.

Measurement by spectrometer of the angle of a prism, and the refractive index for sodium light.

Use of simple photometers.

Tracing the lines of force in a magnetic field.

Comparison of magnetic moments.

Comparison of strength of magnetic fields by vibration.

Study of the simple Voltaic cell, and the Daniell and Leclanche cells; the dry cell; the accumulator.

Absolute measure of current (i) by tangent galvanometer, (ii) by electrolysis.

Measurement of heat developed by current.

Measurement of resistance of wires.

Comparison of electromotive forces.

Verification of laws of transverse vibration of strings.

Determination of velocity of sound by resonance.

Books for Study—

The Syllabus for the Intermediate Examination is *approximately* covered by one or more of the following books:—

Brown, S. E.: Experimental Science.

Crowther, J. A.: Manual of Physics.

Houstoun: Intermediate Physics.

Joseph: Intermediate Physics.

Nightingale: Experimental Hydrostatics and Mechanics.

„ Heat, Light and Sound.

„ Magnetism and Electricity.

Shackel: Heat, Light and Sound.

Shackel: Modern School Electricity and Magnetism.

Venkatachari: Intermediate Physics; 2 Vols.

Davis and Black: New Practical Physics.

Reference—

Duncan and Starling: Text-book of Physics (Macmillan).

Brown, S. E: Sound (Cambridge University Press).

Krishnaswami, T. S.: Sound (Murthi Brothers).

(3) CHEMISTRY.

The course shall include a more detailed study of the matter included in the Matriculation syllabus and in addition the following:—

The laws of chemical combination by weight and by volume, Atomic theory; symbols and their use. Equivalents. Atomic

weights. Molecular weights. Avogadro's hypothesis and relation of gas density to molecular weight. Chemical equations and calculations; nomenclature.

A general knowledge of the properties of the elements and of the chief types of their compounds with a view to their classification.

The ordinary methods of preparation, and the chief properties of the following elements and their principal compounds:—hydrogen, oxygen, the halogens, sulphur, nitrogen, phosphorus, arsenic, boron, carbon and silicon.

Chief sources, preparation and properties of the common metals, viz., sodium, potassium (ammonium), silver, mercury, lead, copper, zinc, antimony, bismuth, magnesium, calcium, barium, aluminium, iron, manganese, chromium, tin, and the preparation and properties of their oxides, hydroxides and their salts with the more common negative radicals.

Books for Study—

Smith: Experimental Inorganic Chemistry (Bell).

Senter: Text book of Inorganic Chemistry.

Reference—

Smith: Introduction to Inorganic Chemistry (Bell).

Holmyard, E. J.: Inorganic Chemistry (Edward Arnold).

Partington, J. R.: Everyday Chemistry (Macmillan).

(4) NATURAL SCIENCE.

(i) *Botany.*

Intermediate Course—

(1) The main external features, mode of life and place in nature of the following:—Bacteria, Fungi, Algae, Lichens, Mosses, Ferns and Flowering plants.

(2) The external morphology of the following parts:—root, stem, leaf, inflorescence, flower, fruit and seed, and the meaning of 'homology' with regard to modifications of these.

(3) The work of the root, stem, leaf and flower, including the main facts concerning the absorption of food and water, transpiration, respiration, metabolism, the storage of food reserves, growth, reaction to light and gravity, pollination, fertilization and the germination of seeds. Candidates will be expected to show that they have studied these experimentally in living plants either personally or in class demonstration.

(4) The nature, occurrence and function of the epidermis, roothairs, stomata, parenchyma, vascular bundles, sieve-tubes, fibres, vessels and cambium, so far as is required to understand the physiology in paragraph 3.

(5) The principal characteristics of the following orders and tribes as exemplified in South India:—

Anonaceae, Malvaceae, Rhamnaceae, Papilionaceae Cæsalpiniaceae, Mimosaceae, Myrtaceae, Rubiaceae, Compositae, Convolvulaceae, Acanthaceae, Labiatae, Euphorbiaceae, Palmae and Musaceae.

Candidates will not be examined in the use of the microscope, but it is expected that teachers will use the microscope freely for purposes of demonstration.

Books for Reference—

Thoday: Botany for Senior Students.

P. F. Fyson: Botany for India.

K. Rangachari: Manual of Elementary Botany for India.

K. Rangachari: A Handbook of Botany for India.

Dixon: Practical Plant Biology.

A. G. Transley: Elementary Biology.

Gager: Fundamentals of Botany.

(ii) Zoology.

1. *Intermediate—Zoology and Physiology—*

The chief characters of living organisms. Protoplasm. Cell. Plants and Animals, how they agree and how they differ. Meaning of the terms Biology, Morphology and Physiology. The theory of Evolution treated in an elementary manner. The structure of the following animals treated in a very elementary manner with special reference to their physiology—Amœba, Paramaecium, Obelia, Earthworm. Outline of their reproduction. A more detailed study of the external characters, and of the general arrangement and relations of the chief internal organs, as revealed by dissection, in the cockroach, the frog and the rabbit. General outline of their life history. External features of a fish e.g., shark (Carcharias). Life history of a butterfly. All the types mentioned above are to be studied with special reference to their environment.

The Human skeleton and its parts. The arrangement of the chief viscera in man. The leading facts of human physiology treated in a very elementary way. The nature of food and the manner in which it is digested and absorbed. Glands. The work of the liver. The nature and functions of the blood. The heart and the circulation. Respiration. Waste products and

their removal. The temperature of the body and how it is maintained. The action of muscles. The chief functions of the central nervous system, nerves and sensory organs.

Candidates will be expected to be able to make simple diagrams to show the arrangement or general features of the chief organs and structures in the animals enumerated in the syllabus. A practical knowledge of minute structure requiring the use of the microscope will not be required.

Books for Study—

G. C. Bourne: Comparative Anatomy of Animals, two volumes. (G. Bell & Sons).

Huxley (revised by Barcroft): Lessons in Elementary Physiology.

Bainbridge and Menzies: Essentials of Physiology (Longmans, Green & Co.).

Parker and Bhatia: An Elementary Text-book of Zoology for Indian Students. (Macmillan).

Introduction to Zoology—Hegner, (Macmillan & Co., New York.)

Zoology for Medical Students by Borradaile.

Elementary Physiology by Foster and Shore.

Essentials of Zoology: A. Meek (Longmans.)

Reference.—

The Text-book in Zoology by H. G. Walls and A. M. Davies.

(5) GEOGRAPHY.

I. *The Physical basis of Geography*—A general treatment of the following topics:—

(*a*) The atmosphere—chief movements of air and water and the resulting types of weather and climate including under this insolation and temperature—atmospheric pressure and world winds—precipitation—storms—local winds.

(*b*) The oceans—area and depth—continental shelf and slopes—deeps—composition of sea water—origin of salt and distribution of salinity—temperature—movement of the ocean waves and tides—currents—deposits—on the ocean floor—coral reefs and islands.

(*c*) The land—materials of the earth's crust and the forces that shape it—agencies of disintegration and reconstruction—process of earth sculpture—rivers and the development of river system—underground water—snow and ice—wind as an agent of transport and deposition—volcanoes—lakes—shore lines—deltas and estuaries.

II. *General Regional Geography on a World Basis.*—

Structure—climate—vegetation—a study of the major natural regions with reference to prevailing economic conditions—plant and animal life—distribution of population—localisation of industry—transport—trade centres and routes.

III.

For 1935—*Detailed Study of Eurasia.*

Structural features and relief—climate —vegetation—communications and population of Eurasia as a whole; and the characteristic geographical features of the S. W. Highlands of Asia—the monsoon regions—mid-Asian deserts—tundra, forests lands and steppe lands of Eurasia—the British Isles—the central plains of Europe—the central highlands of Europe—the Mediterranean region.

From 1936.

[III. *Detailed Study of India* (Note: World relations to be stressed).]

IV. *Practical Work.*

(*a*) Shape of the earth—determination of position—angular measurement and latitude—parallels and meridians —Greenwich time and Indian standard time—a study of the simple types of map projection.

(*b*) Study and interpretation of Indian ordnance-maps—methods of showing relief.

(*c*) Principles of field mapping by plane table, prismatic compass, clinometer—the use of a levelling staff—and aneroid barometer in determining height.

(*d*) Collection and tabulation of data—diagrammatic and cartographic methods of expression.

The following text-books are recommended to indicate the standard of work required:—

General and Regional Geography—Unstead and Taylor (George Philip & Son).

Regional Geography Book IV—The World—L. Brooks (University of London Press).

The Indian Empire—Dudley Stamp (Longmans & Co.)

Text-book of Geography—A. W. Andrews (Edward Arnold & Co.)

Economic Geography of the British Empire—C. B. Thurston (University of London Press.)

A Geography of Asia—J. Martin (Macmillan & Co.)

A Geography of Europe—T. A. Smith (Macmillan & Co.)

Physiographical Introduction—A. J. Herbertson (Oxford University Press.)

Physical Geography—P. Lake (Cambridge University Press —can be obtained from Messrs. Macmillan & Co.)

Maps and Survey—A. R. Hinks (Cambridge University Press.)

A little book of map projection—W. Garnett (George Philip & Son).

Oxford Advanced Atlas (Oxford University Press).

(6) LOGIC.

1935.

Creighton's Introductory Logic, Parts I and II (Omitting **Chapter II).**

1936.

An Introductory Logic by Creighton and Smart, omitting Chapter II.

(7) ANCIENT HISTORY.

The following books are recommended as indicating the scope in Greek and Roman History—

I. (1) Bury's History of Greece.

(2) History of Greece, Tutorial series.

II. (1) History of Rome—Tutorial Series.

(2) Shuckburgh's History of Rome.

(3) Pelham's History of Rome.

N.B.—In regard to the two works, Bury's History of Greece and Shuckburgh's History of Rome, the bigger books are intended.

(8) MODERN HISTORY.

General Outlines of Political, Constitutional and Industrial History, the scope being indicated by Rait's British History. (Bound in one Volume, Nelson & Sons), and Ramsay Muir's History of England, (Longmans, Green & Co.).

Reference—

Trevelyan's History of England.

Note:—The first paper shall deal with the History of Great Britain and Ireland, political, economic and constitutional down to 1603 and the second paper shall deal with the period after 1603 down to the present day.

(9) INDIAN HISTORY.

General Outlines of Indian History, the scope being indicated by Messrs. Longmans' Series of three books:—(1) Hindu India by Mr. K. V. Rangaswami Ayyangar, (2) Muhammadan India by Messrs. H. L. O. Garrett and Sitaram Kohli, and (3) British India by Mr. Rushbrook Williams.

Note:—The first paper shall deal with Ancient and Mediæval Indian History down to 1526 A.D., and the second paper shall deal with Indian History from 1526 A.D., to the present day.

(10) AGRICULTURE.

Theoretical.—(2 hours a week for 2 years, each year consisting of 32 working weeks—total 128 hours).

Weather.—Climate, seasons, monsoons and rainfall, as affecting the growth of crops.

Soils.—Origin. Formation. Soils of the Madras Presidency.

The proximate constituents, sand, clay, lime and humus. Fertility of the soil as modified by its physical, chemical and biological properties. Water capacity and movement of water in soils. Drainage. Dormant and available plantfood. Retentive power of soils for manurial constituents.

Land Measurement—Measurement of land. Laying out of plots. Calculation of areas.

Tillage and Tillage Implements.—Necessity for and effects of tilth, tillage. Tilth, tillage operations in wet and dry lands. Ploughs and ploughing. Wooden and iron ploughs. The parts of a plough and general adjustments. Harrows. Guntakas. Cultivators. Rollers. Tools employed in tillage operations.

Seeds and Sowing—Preparation of land for sowing. Deep and shallow sowing. Broad-casting and drilling Implements used. Preparation of seed for sowing. Quantity and quality of seed. Selection of seed and seed strains. Germination of seed. Seed-beds. Nurseries. Transplanting.

Plant Life—Plant nutrition as illustrated by the growth of farm crops. Functions of roots, stems, leaves, flowers and seeds. Reproduction from seeds and by vegetative growth. Weeds and their distribution in land. Eradication of weeds. Interculturing. Implements and tools used.

Irrigation—Necessity for water. Sources of water supply. Laying out irrigation channels in the field. Water-lifts.

Manures and Manuring—Necessity for manures. General principles governing the application of manures. Classification of manures. Farm manure, its collection and preservation. Synthetic Farm Yard Manure. Green manuring, oil-cakes, bonemeal, fish, manure. Concentrated and special manures available in South India. Unit values of manures.

Harvesting—harvesting, threshing, cleaning and measuring or weighing of produce. Storage of produce. Marketing.

Crops and Cropping—Rotations and mixed cropping. The chief Cereal, Pulse, Industrial, Fodder and Garden crops of the Presidency, for instance, the following:—Paddy, cholam, ragi, cumbu, dholl, Bengal gram, sugarcane, cotton, groundnut, castor,

gingelly, plantain, tobacco, chillies, gogu, indigo, fodder-cholam, sunhemp, sweet-potatoes, brinjals and gourds. Other crops peculiar to the locality.

(A practical working knowledge of the crops is required, deduced, as far as possible, from the students having taken part in all field operations including the preparation of the land, sowing and planting, manuring, irrigating, weeding, harvesting, threshing, and preparation for the market).

Damages caused to crops by insect pests and fungoid diseases. Control measures.

Farm Animals and Feeding.—Care and management of cattle. Breeds of cattle. Breeding. Points of a good animal. Common ailments and First-aid treatment. Cattle-foods—roughages and concentrates. Rations for growing animals, working cattle and milch cows. Milk and its general properties.

(*Practical:*—3 hours in the morning, once a week, for 2 years, each year consisting of 32 working weeks—total 64 classes).

Each student should take part in all operations going on on the farm—not merely seeing the work done by coolies—maintain a field book of observations, corrected and testified by the class teacher and the Principal as student's own work. Field books should be produced at the time of the Practical Examination. Not less than 75 per cent. of practical classes should have been attended by each student.

Examination—The examination will be both written and practical. The paper to be of 2 hours' duration and will carry 50 marks.

The practical to be of 3 hours' duration, to consist of ploughing and other field operations as well as an oral examination and to carry 50 marks.

The minimum for a pass will be the same as for other optional subjects, *i.e.*, 35 per cent.

(11) ELECTRICAL ENGINEERING.

AN ELEMENTARY COURSE IN MECHANICAL ENGINEERING.

Graphics: Problems relating to the reduction of a system of forces in two dimensions. Graphical arithmetic. Plotting of curves from given data.

Machine Drawing: Ability to copy accurately to scale and supply additional views. The preparation of drawings of simple machines from dimensioned sketches, models or actual parts of machines.

Preliminary geometrical drawing recommended:—Projections of simple solids like prisms, pyramids, cones, cylinders in simple position on the 3 co-ordinate planes. Elementary changing of planes of projection. Simple sections.

Strength of materials: *Mechanical properties of engineering materials. Stress and strain. Modulus of elasticity. Elastic limit. Ultimate strength. Factor of safety and working strength. Statics and application to simple structures. Coplanar forces. Application of graphical methods to simple frames with pin joints such as cranes, etc. Elementary study of beams. Strength and stiffness. Bending moment and shearing force. Sections in iron, steel and wood. Simple shear and torsion. Horse power transmitted by solid circular shafts by assumption of formula. *Principle of work. Potential and kinetic energy. Horse power. Centrifugal force and its application to governors.

Materials: Characteristics of cast iron, wrought iron and steel. Working strength of these materials in compression, tension and shear. Characteristics of copper, brass, gun-metal and aluminium.

Shafting and bearings: simple forms of shafts and shaft couplings. The pin type flexible coupling. Simple types of bearings. Pedestal, ring oiled, and ball bearings. Use of belt pulleys and their velocity ratio. Use of spur and bevel wheels. Clutches and universal joints.

PRACTICAL WORK.

The following indicates broadly the scope of the practical work.

Exercises in wood-work, forging, soldering, casting, fitting wood and metal turning.

ELECTRICAL ENGINEERING.

General principles: Electro-magnetic and C. G. S. systems of units. Principles of electro-magnetic induction. Practical system of electrical units. Electro-magnets. Production of alternating currents. Commutation. Alternating e. m. f. and current R. M. S. values; Frequency, Power and Power Factor. Simple notions of Inductance, Impedence and Polyphase currents.

Measurements: The Principles of construction and use of instruments ordinarily employed.

Generators: Continuous current generator (Shunt, Series and Compound); Alternators—single and three phase; Transformers single phase; their construction, principles of action and characteristics.

Motors: Continuous current motors (shunt, series and compound) their construction, principles of action, performance and uses. Simple notions about synchronous and Induction motors.

Batteries: Construction and management of Primary and Secondary batteries and their practical applications.

Distribution: Methods of distributing electric power in streets, overhead and underground mains. Calculation of conductor sizes.

Illumination: Candle power; Use of shades; Photometer.

Note.—The instruction given will in general be descriptive only. In alternating current the treatment will be by the use of graphs avoiding mathematical equations.

LABORATORY COURSE.

The following indicates broadly the scope of the practical work.

1. Simple exercises in soldering, joining and wiring.

Direct Current—

2. Experimental verification of Joule's Law.
3. Measurement of efficiency of an electric kettle.
4. Blow out current of fuses in open air and fuse holders, influence of fuse holders and increase in number of strands.
5. Practical methods of measurement of resistance.
   (a) Drop of potential method.
   (b) Comparison of voltage drop with drop against a known standard resistance.
   (c) Wheatstone bridge method.
   (d) By ohmmeter.
   (e) Insulation resistance by megger.
6. Calibration of measuring instruments—
   (a) Calibration of ammeter with a sub-standard instrument.
   (b) Calibration of voltmeter against a standard cell by use of potentiometer and ratio box and against a sub-standard volt-meter.
   (c) Calibration of voltmeter as ohmmeter.
   (d) Calibration of a Wattmeter against sub-standard voltmeters and ammeters.
   (e) Calibration of ampere hour and watthour meters.
7. Tracing a switchboard circuit with and without faults.
8. Measurement of power taken by lamps, fans, electric kettles, irons, stoves, etc.
9. Shunt Motor—
   (a) Standard connections for starting up a self excited D. C. shunt wound motor with standard type starter and field rheostat.
   (b) Reversal of a shunt wound motor.

(c) Starting shunt wound motors with separate excitation. Use of field discharge switch.

(d) Speed characteristic of shunt motor.

(e) Efficiency of shunt motor by brake test.

10. Compound wound motors (cummulative)—Speed characteristics.

11. Generators—

(a) Open circuit characteristics of a shunt wound generator separately excited.

(b) Load characteristic of shunt type generator separately excited and self excited.

12. Motor generators—Overall efficiency of a D. C.—D. C. motor generator set.

13. Measurement of internal resistance of a primary and a secondary cell.

Alternating Current—

14. Measurement of inductance from applied A. C. voltage, current flowing and from frequency.

15. Measurement of impedence from voltage current and frequency. Resistance and reactance components by right angled triangle construction.

16. Alternators.

(a) Open circuit characteristic of a three phase alternator.

(b) Load characteristic of a 3 phase alternator with balanced load.

17. Transformers—Single phase transformers—

(a) Ratio of transformation.

(b) Load characteristic of a transformer with non-inductive load.

(c) Efficiency by actual loading by measuring input and output by Wattmeters.

18. Measurement of power.

(a) By Wattmeter in a single phase circuit.

(b) In a 3 phase balanced load circuit by measuring power in one phase by a single Wattmeter and multiplying by 3. Power output of a 3 phase star connected generator on balanced load.

19. Measurement of power factor.

(a) Single phase circuit.

(b) Alternator 3 phase star connected balanced load circuit by assumption of formula.

$$\text{Cos} = \frac{\text{Watts}}{\text{Line volts} \times \text{line amps} \times \sqrt{3}}$$

20. Induction motor. Squirrel cage type. 3 phase.

(a) Speed variation on load.

(b) Efficiency from brake test.

21. Calibration of an A C. single phase watthour meter with a standard Wattmeter and standard clocks.

22. Photometry—Measurement of candle power of an incandescent lamp against any standard.

Note.—At least 2 hours a week should be devoted to practical work.

(12) MECHANICAL ENGINEERING.

Graphics: Problems relating to the reduction of a system of forces in two dimensions. Plotting of curves from given data. Graphical arithmetic.

Machine drawing: Ability to copy accurately to scale and supply additional views. The preparation of drawings of simple machines and parts from dimensioned sketches, models or actual parts of machinery.

Geometrical Drawing: Projection of simple solids like prisms, pyramids, cones, and cylinders in simple positions on to the 3 co-ordinate planes. Elementary changing of the planes of projection. Simple sections.

Strength of materials: Mechanical properties of engineering materials. Stress and strain, Modulus of elasticity. Elastic limit. Ultimate strength, Factor of safety and working strength. Statics and application to simple structures. Coplanar forces. Application of graphical method to simple frames with pin joints. Elementary study of beams. Strength and stiffness, bending moments and shearing force. Sections in iron, steel and wood. Simple shear and torsion. H. P. transmitted by solid circular shafts by assumption of formula. Principle of work. Potential and kinetic energy. Horse Power. Centrifugal force and application to governors.

Heat Engines: Heat and work. Properties of steam. Sensible heat. Latent heat and total heat. Dry, saturated and superheated steam. Boiling point of liquids. Relation between temperature and pressure of steam. Laws of perfect gases. Estimation of means pressure and work done from indicator diagrams. Brake horse power. Mechanical efficiency of engines.

Steam engines: Stationary steam engines, condensing and non-condensing, the locomotive engine; the de Laval turbine; description and working. Mechanical efficiency.

Internal combustion engines: Modern engine cycles and their applications. A simple type of 4 stroke oil engine and a two stroke oil engine.

Boiler: Description and working of common types and their accessories.

Materials: Characteristics of cast iron, wrought iron and steel. Working strength of these meterials in compression, tension and shear. Characteristics of copper, brass, gun-metal and aluminium.

Connections: Forms and proportions of rivets and their arrangements in lap and butt joints—single and double riveted joints. Pitch of rivets. Forms and proportions of bolts, nuts and keys.

Shaftings and bearings: Simple forms of shaft couplings and shaft bearings. Clutches; claw and simple cone friction types. Arrangement of pedestal and footstep bearings. Simple types of ball bearings. Methods of lubricating bearings.

Belt and toothed gearing: Forms of belt pulleys; Velocity ratio. Fast and loose pulleys. Stepped speed cones. Tension of belts, Joints of belts. Materials of belting. Spur and bevel wheels and their velocity ratio.

Engine details: Usual forms of cranks and levers, eccentrics, connecting rods, cross heads and coupling rods.

Pumps: Working of simple types.

Note:—*Instruction will in general be descriptive only.*

PRACTICAL WORK.

The following indicates broadly the scope of the practical work.

1. Simple lessons in woodwork, forging, soldering, casting, fitting, wood and metal turning.

2. Verification of Hooke's Law for tension. Determination of Elastic limit and Young's Modulus.
3. Verification of laws of strength and stiffness of beams.
4. Determination of the mechanical equivalent of heat.
5. Determination of latent heat.
6. Determination of the relation between temperature and pressure of steam.
7. Determination of I. H. P. from diagram supplied.
8. Brake Horse Power of an engine.

Note.—At least two hours a week to be given to practical work.

(13) SURVEYING.

Chain, Prismatic Compass and Plane Table.—Running a chain line; measuring offsets; use of the cross staff; optical square; survey of areas with chain only; well conditioned triangles, check or tie lines; keeping the field book: testing the chain; modes of passing obstacles; chaining across a river or other obstacle; survey of areas with prismatic compass; keeping the field book; plotting surveys made with chain and compass; survey of areas with plane tables; inaccessible points; filling in a survey; finding one's place in a survey.

Setting out.—Ranging straight lines by eye. Laying out curves by chords and offsets.

Level.—Permanent and temporary adjustments; levelling field book, two methods of reducing the field book; levelling; contouring; cross section; correction for curvature of the earth and refraction; check levels; bench marks; use of Abney's level; clinometer and ghaut tracer; setting out gradient for railways, canals and sewers.

Theodolite.—Use and adjustments of Theodolites; traversing; Gales' system; setting out straight lines and curves.

Drawing and Mensuration.—Use of drawing instruments, construction of scales; conventional signs; estimation of areas; use of Planimeter and Pantagraph; plotting lines of levels and taking out quantites of earth-work; copying plans to different scales by squares; representation of ground by contours; section on contoured plans; location of roads and railways on contoured plans showing cuttings and embankments; estimation of areas and volumes; reduction and plotting of a theodolite traverse.

Surveying.—Four hours per week for two years will be adequate for covering the syllabus. One hour each week may be devoted to lecturing and 3 hours for outdoor practice. For every 12 students, one set of instruments may be provided.

Text-books—To indicate the scope and standard the following text-books are suggested for the present :—

Electrical Engineering—Mechanical Engineering.

Applied Mechanics—Cryer and Jordan.

Machine Design—Frank Castle.

Mechanics for Engineers—Morley (advanced portions to be omitted.)

Steam (Elementary)—Ripper.

Steam Engines—Holmes.

Electrical Engineering—Principles of Direct Current Electrical Engineering—Barr.

Electrical Engineering—Gray.

Surveying.

Methods of Surveying by N. F. Mackenzie.

(14) ARCHITECTURE.

1. General Survey and History of Architecture:—

   Egyptian, Greek, Roman, Byzantine, Gothic, Indian, Eastern, Modern.

2. Materials of Construction, and limitations imposed by them—Wood, stone, brick, concrete, terra cotta, steel, mortars.

3. Styles of Architecture:—Main points of difference and evolution.

4. Indian styles and their chief characteristics.—Cave Architecture, Jain, Buddhist, Dravidian, Pallava, Chalukyan, Vijianagar, Saracenic, combinations of styles.

5. General principles of designs:—Temple architecture, Architecture of Public Buildings. Indian Domestic Architecture—Huts, Contiguous houses with court-yard, bungalow or garden houses, palaces. Influence of climate, rainfall, geographical position, etc.

6. Details and Ornamentation—Orders, Pillars, Bases and Capitals, Doors and Windows, Friezes, Mouldings, Ceilings, Roofs, Facades, Floors.

7. Drawing—Geometrical Drawing, Figure Drawings, perspective, making sketches from objects, shading.

Note.—There shall be two papers of two hours duration each.

DRAWING.

Time available: 4 hours per week for 2 years (20 months).

The course shall consist of two branches—

A. Practical Drawing and Painting.

B. History, Theory and Appreciation of Art.

A. i. Still Life.

ii. Objects in relief for appreciation of light and shade.

iii. The Human figure in repose.

iv. The Human figure in action.

The examination will be of 5 hours—i. Still life in colour; ii. Object in relief, etc., monochrome; The human figure in (iii) repose and (iv) action, both in monochrome.

B. i. The laws of perspective.

ii. History of (*a*) Indian and (*b*) European art.

iii. Theory and appreciation of Art, with special reference to

(a) Aganta Frescoes, Mogul Art and Modern Indian Art.

(b) Italian, Dutch and Modern European Schools up to the end of the XIX century.

This course requires the study of a large number of reproductions (in colour) of pictures.

Note.—There shall be two examinations, one a written exa mination of 2 hours, and the other a practical examination.

(15) INDIAN MUSIC.

Theory of Music.

(1) *Stayi*—Swaras 7 and 12 and their names. Consonant and Dissonant Notes—Vadi, Vivadi and Samvadi.

(2) *Raga and Tala.*—

Definition of Raga.

Raga classifications in Carnatic Music.

Definition of Tala.

The Tala system of Carnatic Music. The Scheme of 35 Talas.

(3) *Musical Composition.*—The characteristics of different types of musical compositions, viz., Gitas, Varnas, Ragamalikas, Kirtanams, Padams, Chindus.

Principles of Carnatic Notation (Sa, ri, ga, ma, etc.).

(4) *History of South Indian Music.*—Biographies of the following South Indian Musicians and Composers and their contribution to Carnatic Music.—

Venkatamakhi, Kshetrajnulu, Muthuswami Dikshitar, Tyagaraja, Syama Sastri, Pattanam Subrahmanya Ayyar, Arunachala Kavirayar, Gopalakrishna Bharati and Ramnad Srinivasa Ayyangar.

(5) A knowledge of the following 20 ragas and of at least one musical composition in each:—

Todi, Bhairavi, Sankarabharanam, Kalyani, Kambhoji, Saveri, Mohanam, Mukhari, Kedaragaulam, Arabhi, Sriragam, Bilahari, Yadukulakambhoji, Anandabhairavi, Nadanamakriya, Karaharapriya, Begadi, Sahana, Kamavardhani and Dhanyasi.

There shall be one theory paper of three hours' duration and a practical examination. 50 marks shall be the maximum for the theory paper and 50 marks for the practical examination.

There shall be a practical examination in either vocal or instrumental music and a separate minimum of 35 per cent. will be required in the practical examination. As regards instrumental music, candidates will have the choice of playing on any of the following instruments: Veena, Violin and Flute.

In the practical examination, candidates will be expected to sing or play any of the 20 ragas prescribed as well as compositions in any of the following Talas: Adi, Rupaka, Triputa and Chapu. Candidates shall also be expected to sing or play 5 gitas, 3 varnams and 1 padam.

The candidates will also be expected to elaborate (i.e., alapanam) any of the first ten ragas prescribed above.

Books for Reference—

1. Sangita Sampradaya Pradarsini, by Subbarama Dikshitar—Two Volumes and the Primer.

2. Oriental Music in European Notation—by A. M. Chinnaswami Mudaliyar.

3. Music of India by Rev. H. A. Popley.

4. Music of Hindusthan by A. H. Fox—Strangways.

5. Richardson—"Sound"

6. T. S. Krishnaswami—"Sound."

7. Modern Violin Technique by Thistleton.

8. "Thiagaraja" by M. S. Ramaswami Ayyar.

9. Singaracharlu's Musical Publications in seven parts.

10. "Thyagaraja Hrudayam"—3 Volumes—by K. V. Srinivasa Ayyangar.

11. Bharata Sangita Swayambhodini by T. C. R. Johannes.

12. "Sound" by Nightingale (Bell & Sons).

13. The Melakarta Janyaraga Scheme—by P. Sambamurti. (The Indian Music Publishing House, G. T., Madras).

14. Swaramanjari.
15. Gayaka Parijatam.
16. Sangita Kalanidhi.
17. Gayaka Siddhanjanam, Parts I & II.

} By T. Singaracharlu.

18. Sangita Chintamani by K. V. Srinivasa Ayyangar.

19. Sangita Sudhambudhi by K. V. Srinivasa Ayyangar.

20. Svaramalakalanidhi—edited by M. S. Ramaswami Ayyar, (Annamalai University Publication).

21. Harmonia Bodhana Sangitha Rathnam—edited by Subrahmanya Ayyar, (Kamakshi Vilas Book Depot, Vepery, Madras).

22. Varna Malika by K. Ramachandran—(Messrs. V. Venkateswarlu Sastrulu & Co., Esplanade, Madras).

(16) WESTERN MUSIC.

I. Theory

1. *Notation.*—The Staff and clefs; Leger Lines; Accidentals; Formation of the Major and Minor Scales (both forms of the latter) and Chromatic Scales; Key-signatures and Time-signatures.

2. *Time.*—Relative duration of sounds; Notes; Rests; Dots; Ties, Staccato-marks; the Pause; Regular and Irregular Grouping of notes; Syncopation; Adding Time-Signature and Bar-lines to a given Melody; Completing a Bar by the addition of Rests or Notes.

3. *Transposition and Terms.*—Transposition of a simple example from Clef to Clef (G. C. and F), from Key to Key and from Short to Open Score, or *vice versa.* Knowledge of necessary Terms for the writing of Chords, and for Part-writing. Naming the key of a given passage and supplying the Key-signature.

4. *Intervals.*—Diatonic and Chromatic, simple and compound, direct and inverted. Figuring the Bass of a simple example of Harmony up to and including Chords of the 7th and their Inversions.

5. *Harmony.*—Simple exercises on Triads and their Inversions, the Dominant 7th and its Inversions and Resolutions. The construction and designation of Cadences, all to be illustrated by easy exercises and four-part writing.

6. *Melodic Analysis.*—The Analysis of a simple eight-bar Melodic sentence into "fore" and "after" phrases and sections.

7. Terms and signs in general use, Ornaments and Embellishments.

Text-Books.—

i. Rudiments of Music—Stewart Macpherson—(Associated Board Publication).

ii. Rudiments of Music—W. H. Cummings. (Novello's Music Primers).

iii. Text-book of Musical Knowledge (Upper Division)—C. W. Pearce, Trinity Coll: Publication).

iv. Harmony—J. Stainer (Novello's Music Primers).

v. Biography—Dr. Riemañ Musical History.

II. Viva Voce and Ear Tests.

1. Rhythm and Time. To hum or tap a rhythmical passage played on the Pianforte by the Examiner and to state the Time.

2. To recognise Major and Minor common chords and their Inversions played in four-part Harmony.

3. To recognise Cadences.

4. To name five notes of a Diatonic Major scale played in any order.

5. To name five notes of a Diatonic Minor scale played in any order.

6. To answer questions on—

   (i) Scales, Major and Minor (both forms).

   (ii) Intervals.

   (iii) Accent.

   (iv) On Marks of Expression.

III. Practical Examination.

1. Scales—Major and Minor (Melodic and Harmonic) in all Keys-compass two octaves.

2. Arpeggios—formed of all the Major and Minor common chords in all Keys—compass two octaves.

3. Two Studies (to be prescribed from year to year).

4. Two Pieces (to be prescribed from year to year).

Books: Music Publications of Local Examinations in Music of—

   i. The Trinity College, London.

   ii. The Associated Board of the Royal Academy of Music and the Royal College of Music, London.

Two hours each week may be devoted to Theory, and two hours for Practice.

There shall be one theory paper of three hours' duration and a practical examination and *viva voce* and Ear Tests.

(17) COMMERCE.

Elements of Commerce.

Commerce: Evolution of modern commerce. The Economic basis of Commerce. Industry: Evolution of modern industry; Commerce in relation to industry.

Industrial and Business Organisation: Types of businesses: Individualistic concerns, Partnerships, Joint Stock Companies—Public and Private, Trusts and monopolies, Co-operative undertakings, Government and Municipal undertakings.

Organisation of Capital. Organisation of Labour. Organisation of credit. Banking. Organisation of trade. Agency business. Managing Agents. Marketing and Salesmanship. Produce exchanges. Advertising.

Land, water and air transport. Shipping and railway formalities. Insurance (Fire and Marine). Ware-housing. Documents used in the above.

Office organisation: accounting. Correspondence. Filing, indexing. Statistical records of business results.

Chamber of commerce and other institutions for the promotion of trade. Trade barriers, Customs and customs formalities.

Methods of payment. Balance of trade and its liquidation. Foreign exchange. Currencies of leading commercial countries and their conversion.

Book recommended—

Stephenson: Principles and Practice of Commerce.

Accountancy.

1. Book-keeping: its principles and practice by means of double entry. The uses of subsidiary books. Accounts of trading and non-trading concerns. Preparation of annual accounts, manufacturing, trading and profit and loss accounts and balance-sheet; real, personal and nominal accounts. Goodwill. Depreciation. Reserves. Reserve fund. Sinking funds.

2. Capital and revenue accounts. Receipts and payments accounts. Income and expenditure accounts.

3. Departmental and Branch accounts including Foreign Branches. Consignment and Joint adventures.

4. Partnership accounts including dissolution of partnerships and questions of good-will. Adjustment of accounts as between partners.

5. Joint Stock companies accounts. Statutory books and returns. Share capital and share records. Issue of shares. Allotments and calls. Debentures. Premium and discount on shares and debentures. Reduction of capital and reconstruction. Purchase of business. Reconstruction, amalgamation and absorption.

6. Systems of accounting as applied to commercial enterprises; public undertakings; charities; hospitals, etc.

7. Single entry; its conversion into Double-Entry.

Book recommended—

Arthur Fieldhouse: Complete Commercial Book-keeping.

(18) ECONOMIC GEOGRAPHY AND ECONOMIC HISTORY.

(a) *Economic Geography.*

1. General World Geography.

Physical basis of Geography. Structure and soil relief and drainage-climate and rainfall-natural vegetation-major natural regions of the world-population, its distribution and density.

2. Chief world commodities—their distribution and conditions of production, relative supply and markets. Food stuffs of animal and vegetable origin-mineral products—raw materials of industry.

3. Chief world industries and their regional distribution, special attention being paid to textile, iron and steel, ship-building and chemical industries—sources of mechanical power.

4. Transport-inland and oceanic-relation to hinterlands and market-world ports and trade routes-immigration and colonisation.

Text-books—

1. Dudley Stamp—Intermediate Commercial Geography, (Longmans).

2. Macfarlane—Economic Geography.

(b) *Economic History.*

A general survey of industrial and commercial developments in Great Britain.

1. The natural and human foundations of Britain's economic pre eminence—The manorial system and mediaeval agricultural conditions. Guilds and handicrafts—Mediaeval trade—Breakdown of mediaeval economy—Enclosures and social changes—Rise of national unity, the mercantile system—English industries in 1700—The influence of foreign immigrants.—The East India Company and its economic influence on England.

2. The Industrial Revolution and its social and economic effects—Rise of cotton and iron industries—Agricultural Reform and agrarian changes—New transport methods—Steamship and Railway. Commercial Revolution. Poor relief, factory reform and public health legislation—Tariff policy—Growth of Banking—Labour movement. Commercial Revolution. Decay of English agriculture and efforts at its resuscitation—Growth of State regulation—Economic effects of the World War.

Text-books—

1. Sir W. Ashley—The Economic Organisation of England.
2. M. D. Stocks—The Industrial State.

For reference only—

Lipson: The Economic History of England—Middle Ages; and

Knowles: The Industrial and Commercial Revolutions in Great Britain during the 19th Century.

(b) TEXT-BOOKS.

INTERMEDIATE EXAMINATION IN ARTS AND SCIENCE

Text books for the Examinations of 1935.

ENGLISH.

1935.

PART I.

Shakespeare.—

Richard II.

Poetry.—

Wordsworth: Laodamia.

Tennyson: Ulysses.

The Lotus-Eaters.

Rossetti: The Blessed Damozel.

Arnold: The Forsaken Merman.

Prose.—

Irving's Sketch Book.

The following Selections:—

1. Author's account of himself.
2. The Voyage.
3. Rip Van Winkle.
4. Rural Life in England.
5. The Art of Book-making.
6. A Royal Poet.
7. Westminster Abbey.
8. Christmas.
9. Stage Coach.
10. Christmas Eve.
11. Christmas Day.
12. Christmas Dinner.
13. Stratford on Avon.
14. John Bull.
15. The Angler.
16. Legend of Sleepy Hollow.

Select English Prose.—M. S. Sundaram. (Macmillan).

Non-detailed Study.—

The Epic of Mount Everest by Sir Francis Younghusband. (Edward Arnold & Co.).

Scott: The Fortunes of Nigel.

Tagore: Mashi and Other Stories. (Macmillan).

SANSKRIT.

1935.

PARTS II AND III-B.

1. Śri Harsa's Nāgānanda (Oriental Books Supplying Agency, Poona, or Curator for the Publication of Sanskrit Manuscripts, Trivandrum).
2. Raghuvamśa of Kālidāsa—Cantos 12 and 13 only.
3. Purvapiṭhikā in Daṇḍin's Daśakumāracarita—The first three Ucchvāsas only (Nirnaya Sagara Press, Bombay).

MARATHI.

1935.

PARTS II AND III-B.

For Non-detailed Study.—

1. **Kadambarisar by P. G. Parakhi.**
2. Sukha ani Shanti, Chapters 8—18; pages **199—416** *by* **Modak.**

For Detailed Study.—

Poetry.—

1. Aravacheen Kavita (Poorvardha).
   - **(a) Extracts from Krishna Shastri's Poems, pages 35—54.**
   - **(b) Extracts from P. G Parakhi's Poems, pages 169—202.**
   - **(c) Extracts from W. W. Khare's Poems, pages 419—435.**
2. **Navanit:—**
   - **(a) Raghunath Pandit—Nala Damayanti Svayamvarakhyan, pages 381—411.**
   - **(b) Mukteshwar—Narada-neeti, pages 172—181.**

Prose.—

(1) Koral-icha Killedar, Part I by V. V. Bhide, B.A.

(2) Shiva Chhatrapatiche Charitra by Sabhasada.

Drama.—

Shiva Sambhava by W. W. Khare.

N.B.—**The above books can be had at Messrs. Parachure Puranick and Company, "Madhav Bagh", Bombay.**

ORIYA.

1935.

PART II.

For Non-detailed Study.—

1. Pravandhapravesha by Vasudev Mahapatra.
2. Veera Odiya by Ramachandra Acharya, B.A.

For Detailed Study.—

Poetry.—

1 Chilika by Radhanath Rai.
2. Keechaka Vadha by G. Meher.

Prose.—

1. Vividhachinta by Chintamani Mahanty.
2. Parasamoni by Kuntalakumari Savat.

Drama.—

Pratap Natak by Raja of Chikati.

PART III-B.

1. Beera Odeya by Ramachandra Acharya.
2. Prabhandapatha by Mrutyunjaya Rath.
3. Debi by Upendra Prasad Mahanty.

N.B.—The above books can be had at "The Mukur Press, Cuttack", or at "The Trading Company, Cuttack", or at the "Students' Stores, Berhampore, (Ganjam District.)"

HINDI.

1935.

PARTS II AND III-B.

For Non-detailed Study.—

Maharashtra Kesri by Pandit Taracharan Agnihotri. (Publishers, Ram Prasad & Bros., Agra.)

For Detailed Study.—

Prose.—

Gadya Maladarsha by Pandit Jiwan Shanker Yajnik, M.A., LL.B., Professor, Benares Hindu University, (Publishers, Ram Prasad & Bros., Agra.)

Poetry.—

Padya Prabha by Pandit Hari Shanker Sharma, (Publishers, Ram Prasad & Bros., Agra.)

LATIN.

1935.

PARTS II & III-B.

Vergil: Aeneid II.

Cicero: First Philippic (O. U. P.).

Livy: Book XXII.

FRENCH.

1935.

PARTS II & III-B.

Racine: Iphigenie.

Hugo: La chute, edited by D. C. Heath. (Heath's Modern Language Series).

French Poetry for Schools, edited by J. Boielle, Nos. 1—20 (Longmans).

Scribe: Le verre d'eau. (Macmillan).

GERMAN.

1935.

PARTS II & III-B.

A book of German verse, edited by H. G. Fiedler, Nos. 92—104. (Clarendon Press, Oxford).

Helmholtz—Populære Vortræge, Das Sehen des menschen. Ed. by D. Bussier Shumway. (Heath, N. Y.).

Grillparzer—Weh derlügt (drama).

W. Hauff—Saids Schicksale (aus das Wirtzhaus im Spessart.)

ARABIC.

1935.

PARTS II AND III-B.

Prose.—

Kalilah wa Dimnah, 1st 200 pages.

Poetry.—

Qasidatul Burdah.

Mu'allaqah by Zuhayr.

Grammar.—

Asasi-Arabi or Thatcher's Arabic Grammar.

PERSIAN.

1935.

Parts II and III-B.

Prose and Poetry.—

A'ina-i-Ajam by Sir Muhammad Iqbal.

Farsi-Jadid, Part III.

Drama.—

Akhrin Yadgar-i-Nadir Shah.

Grammar.—

Jami'ul-Qawa'id.

URDU.

1935.

Part II.

Prose.—

Jawahirat-i-Nasr.

Nayrang-i-Khiyal, Part I.

Poetry.—

Diwan-i-Hali-Qit'at and Ghazaliyyath.

Non-detailed.—

Azad Kay Karnamay, Vol. I.

Prem Pachchisi, Vol. I.

Grammar.—

Asas-i-Urdu.

Part III-B.

Prose.—

Maw'izai Hasanah.

Nayrang-i-Khiyal, Part I.

Poetry.—

Intikhabi-Kalami-Mir by Nurur Rahman.

Diwan-i-Hali—Qit'at only.

Non-detailed.—

Prem Pachchisi, Vol. I.

Muntakhab Afsanay, Vol. 9.

N.B.—The above books can be had from the Islamiah Book Depot, Kurnool.

HEBREW.

1935.

PARTS II AND III-B.

1st Samuel.

Jonah (whole book).

TAMIL.

1935.

PART II.

Poetry.—

*(*Selections published by the University*)—

Kurunthogai	..	5 stanzas.
Tirukkural Arattuppal	..	5 chapters.
Kamba Ramayanam (Gangai Padalam)	..	55 stanzas.
Harichandra Puranam (Nagar neengu Kandam)	..	66 stanzas.
Sree Kalathy Puranam (Kannappar)	..	88 stanzas.
Mathurai Pathirruppatthanthadi	..	10 stanzas.
Tiruchendur Murugan Pillaittamil	..	10 stanzas.

Meenakshi Sundaram Pillai—

Prabantha Thirattu—

Akilanda Nayaki Malai	..	15 stanzas.

*Can be had of Messrs. E. M. Gopalakrishna Kone, 158-A, Broadway, Madras.

Prose.—

For Detailed Study.—

Ancient Famous Tamil Poets, Part I, by A. Karmega Kone. (E. M. Gopalakrishna Kone, Madura.)

Muthal Kulothunga Cholan by T. V. Sadasiva Pandarathar, Banathurai High School, Kumbakonam.

For Non-detailed Study.—

Kannaki Charithram by T. Chelvakesavaroya **Mudaliyar,** M.A. (T. P. Alagan, Perambur, **Madras.)**

Janavinodini, Volume XIX, Part I—Edited **by C. R.** Namasivaya Mudaliyar, Tamil Kadal Office, Mylapore, Madras.

Kadambari Sangraham by O. S. Venkatarama Ayyar, Tamil Pandit, Town High School, Kumbakonam.

PART III-B.

Poetry—

1. Needinerivilakkam.
   நீதிநெறி விளக்கம்
2. Harichandrapuranam.
   அரிச்சந்திர புராணம்
3. Pattinatharpadal.
   பட்டினத்தார் பாடல்
3. Thondamandala Sathakam.
   தொண்டைமண்டல சதகம்
5. Pandimandala Sathakam.
   பாண்டிமண்டல சதகம்
6. Cholamandala Sathakam.
   சோழமண்டல சதகம்
7. Kongumandala Sathakam.
   கொங்குமண்டல சதகம்

Selections published by the University.

Prose—

1. Janavinodini, (Revised edition of Part I, No. XIII), **by** Mr. C. R. Namasivaya Mudaliyar.
   ஜனவிநோதினி-திருத்தப்பதிப்பு நெ. XIII, பாகம் I.

2. Dakshina Charitra Veerar by A. Madhaviah, Mylapore, Madras.
   தக்ஷிண சரித்திர வீரர்

TELUGU.

1935.

PART II.

Poetry (Old):—

1. Bharatamu—Adiparvamu, Canto I, Verses 65—164.

2. Parijatapaharanamu, Canto II, Verses 1—82—with Parimalollasamu by N. Kuppuswamiah, available at Andhra Pathrika Office, G. T., Madras.

3. Vishnupuranamu, Canto I, Dhruvopakhyanamu—Verses 258—332, published by the Madras University, (Copies available at C. Coomaraswami Naidu & Sons, G. T., Madras).

4. Ranganadharamayanamu--Paduka Pattabhishekamu—Lines 510.

Poetry (Modern):—

5. Tukaram by S. Veerabrahmakavi, Canto III—(Copies available with the Author, Telugu Pandit, Noble College, Masulipatam.)

Drama:—

Abhignana Sakuntalamu—translated by Vatsavayi Neeladri Raju Garu, Tuni, (Copies available with the Author, Tuni.)

Detailed Prose:—

1. Kalabhashini (pages 1—106) by Vidvan D. Venkataramana Sastri—(available with the Author, Telugu Pandit, Nrisimha Sanskrit College, Chittiguduru, Masulipatam).

2. Bhagavathamu, Navamaskandhamu by Sataghantam Venkataranga Sastri—(available with Messrs. V. Ramaswami Sastrulu & Sons, Madras.)

Non-detailed Prose:—

1. Vikramarka Charitramu by Bhagavatula Ramamurthy Sastri—(available at Messrs. Vavilla Ramaswami Sastrulu & Sons, Madras.)

2. Prachinandhra Nouka Jeevana Charitramu. (Available with Mallampalli Somasekhara Sarma, 2|19, Audiappa Mudali Street, Purasawalkam, Madras.)

PART III-B.

Poetry (Old):—

The same as for Part II with the omission of Vishnu-puranamu (University Publication).

Poetry (Modern):—

The same as for Part II.

Drama:—

The same as for Part II.

Prose:—

The same as for Part II with the omission of Kalabhashini.

Non-detailed:—

The same as for Part II with the omission of Prachinandhra Nouka Jeevanacharitramu.

KANARESE.

1935.

PARTS II AND III-B.

Detailed Study:—

1. Jaimini Bharata by Lakshmisa. Sandhis 1 and 2. (Bala Sahitya Mandala, Mangalore).

2. Harischandra Kavya Sangraha. Chapters 7, 8 and 9. (Mysore University Publication).

3. Hanoomadramayana edited by Munnur Sivaramayya, Aswasa 1. (Bala Sahitya Mandala, Mangalore).

4. Vikramorvasiya Nataka by S. Ayya Sastriar. (The Author, "Kavita Vilas", Mysore).

5. Shoodraka by Vidvan P. Sundara Sastriar. (Bala Sahitya Mandala, Mangalore).

Non-Detailed Study:—

1. Antaranga by Devudu Narasimha Sastri, M.A. (Krishna Company, Bangalore City).

2. Halliya Kathegalu, Part I by C. K. Venkataramayya. (Satya Shodhana Book Depot, Fort, Bangalore).

MALAYALAM.

1935.

Part II.

(a) For the first paper of 3 hours' duration (Translation and Composition).

For detailed Study.—

1. Manōharakathakal by V. T. Sankunni Menon, (Sadkatha Publishing House, Chalapuram, Calicut.)

2. Appandē Makal by M. Bhavathrathan Namboodiripad, Vilayur P.O., (via) Pattambi, S. Malabar.

(b) For the Second paper of 2 hours' duration.

Detailed Study:—

1. Kalyānasouganthikam—Thullal—By Kunchan Nambiar, with introduction by Mr. P. Krishnan Nair, (Siromani), (National Book Depot, Kottayam.)

2. Bharatan by Kanakath Padmanabha Menon, Kunnath House, Kavilpad, Olavacode, S. Malabar.

3. The following pieces from Gītavali published by John Peter Thottam, B.A., (availab'e at Kalavilasini Publishing House, Trivandrum.)
   3, 4, 8, 11.

Drama.—

Antyāmantranam by D. Padmanabhanunni, M.A., Union Christian College, Alwaye.

Prose.—

1. Chinnāsantānam, Part IV by R. Easwara Pillai, B.A., (Easwara Vilasam Book Depot, Parur, N. Travancore.)

2. Vīrāsthamayam by N. Kunhi Raman Pillai, M.A., B.L., College of Science, Trivandrum.

PART III-B.

Non-detailed Prose—

Vanabala by Pallath Raman (Published by the Kohinoor Publishing House, Ponnani, South Malabar).

Detailed-Study.—

Poetry.—

1. Kannuneerthulli—By Nalappat Narayana Menon, Andathode, S. Malabar.
2. Kuchela Vritham—Vanchipattu—By Ramapurath Varier, (any Press).

Drama.—

Veni Samharam—By Pantalam Kerala Varma, (S. R. Book Depot, Puthanchantai, Trivandrum).

Text books for the Examinations of 1936.

ENGLISH.

1936.

Shakespeare.—

Richard II.

Poetry.—

Selections as for 1935, (i.e.)—

Wordsworth: Laodamia.

Tennyson—Ulysses.

The Lotus-Eaters.

Rossetti: The Blessed Damozel.

Arnold: The Forsaken Merman.

Prose.—

M. S. Sundaram: Select English Prose. (Macmillan).

K. Swaminathan: Trevelyan's Life and Letters of Macaulay (Longmans).

Non-detailed Study—

Thomas Hardy: The Trumpet Major. (Macmillan's Indian Edition). Price Rs. 2.

Short Stories of the Nineteenth Century, selected by Fyfe, omitting number 3. (Blackie).

Amy Cruse: R. L. Stevenson. (Harrap).

SANSKRIT.

1936.

Parts II and III-B.

1. Sri Harsa's Nāgānanda (Oriental Books Supplying Agency, Poona, or Curator for the Publication of Sanskrit Manuscripts, Trivandrum).

2. Raghuvamśa of Kālidāsa, Cantos 12 and 13 only.

3. *Bhāsakathāsāra* by Mr. Y. Mahalinga Sastri, Volume II, Part III, pages 1 to 45. (Copies can be had of R. Subrahmanya Vadyar & Co., Book-sellers and Publishers, Kalpathi, Palghat or of Mr. Y. Mahalinga Sastri, M.A., B.L., Advocate, Mylapore.) The portions prescribed in Volume II, Part III, of the *Bhāsakathāsāra* are (1) Vatsarājacarita, (2) Avimārakacarita and (3) Cārudattacarita.

MARATHI.

1936.

Part II.

For Non-detailed Study.—

1. Sukha ani Shanti, pages 199—416, by M. H. Modak.

2. Maharashtracha Samskritik Itihas by S. D. Pendase, M.A., M.O.L.

For Detailed Study.—

Poetry.—

1. Arvacheen Kavita (Poorvardha)—

   (a) Extracts from Krishna Shastri Chiplunkar, pages 35—53.

   (b) Extracts from P. G. Parakhi, pages 169—201.

   (c) Extracts from V. V. Khare, pages 419—434.

2. Navanita—
   (a) Mukteswar—Narada—Neeti, pages 171—181.
   (b) Moropant—Dronaparva, pages 320—329.

Prose.—

1. Life of Shri Shiva Chhatrapati by K. A. Sabhasada.
2. Duyanopasana by S. N. Banahatti, M.A., LL.B.

Drama.—

Krishnarjuna-yudha by N. C. Kelkar, B.A., LL.B.

PART III-B.

The same as for Part II.

N.B.—The above books can be had at Messrs. Parachure Puranick and Company, "Madhav Bagh", Bombay.

ORIYA.

1936.

PART II.

For Non-detailed Study.—

1. Life of Maharaja Ramachendra Bhanja Deo, published by Sahitya Prachara Sangha, Cuttack.
2. Raghu Arakhita by Kuntala Kumari Sabat.

For Detailed Study.—

1. Pranaya Ballari by Gangadhar Mehera.
2. Padma Pakhuda by Padmacharan Patnaik.
3. Pratap Natak by R. R. Deo.
4. Prayachita by Phakir Mohan Senapati.
5. Bibidha Chinta by Chintamony Mahanty.

PART III-B.

1. Debi by Upendra Prasad Mahanty.
2. Prabhanda Patha by M. Rath.
3. Galpa Swalpa by Phakir Mohan Senapati.

N.B.—The above books can be had at "The Mukur Press, Cuttack", or at "The Trading Company, Cuttack", or at the "Students' Stores, Berhampore, (Ganjam District)."

HINDI.

1936.

PART II.

For Non-detailed Study.—

Maharashtra Kesri by Pandit Taracharan Agnihotri (Publishers, Ram Prasad and Brothers, Agra).

Bal Ramayana by Professor Ram Saroop Kaushal (Messrs. Uttar Chand Kapur & Sons, Lahore).

For Detailed Study.—

Prose.—

Gadya Maladarsha by Pandit Jiwan Shanker Yajnik, M.A., LL.B., Professor, Benares Hindu University, (Publishers: Ram Prasad and Brothers, Agra).

Poetry.—

Padya Prabha by Pandit Hari Shanker Sharma (Publishers: Ram Prasad and Brothers, Agra).

PART III-B.

The same as for Part II.

LATIN.

1936.

PARTS II AND III-B.

Aeneid VI.

Cicero: First Philippic. (O. U. P.).

Livy: Book XXII.

FRENCH.

1936.

PARTS II AND III-B.

Hugo, La chute (Ed. by D. C. Heath, Heath's Modern Language series)..

French poetry for schools, Nos. 1—20, (Ed. by J. Boielle, Longman's).

Racine: Athalie.

E. Augier: Le gendre de M. Poirer. (Macmillan's).

GERMAN.

1936.

PARTS II AND III-B.

The same as for 1935, (i.e.):—

A book of German verse, edited by H. G. Fiedler, Nos. 92—104, (Clarendon Press, Oxford).

Helmholtz—Populære Vorträge, Das Sehen des menschen, Ed. by D. Bussier Shumway. (Heath, N.Y.)

Grillparzer—Weh derlugt (drama).

W. Hauff—Saids Schicksale (aus das Wirtzhaus im Spessart).

ARABIC.

1936.

PARTS II AND III-B.

The same as for 1935, (i.e.):—

Prose.—

Kalilah wa Dimnah, 1st 200 pages.

Poetry.—

Qasidatul Burdah.

Mu'allaqah by Zuhayr.

Grammar.—

Asasi-Arabi or Thatchers' Arabic Grammar.

PERSIAN.

1936.

PARTS II AND III-B.

Prose and Poetry.—

A'ina-i-Ajam by Sir Muhammad Iqbal.

Farsi-Jadid, Part III.

Drama.—

Dastan-i-Nadir Shah by Safavi Zadah.

Grammar.—

Jami'ul Qawa'id.

URDU.

1936.

PART II.

The same as for 1935, (i.e.) :—

Prose.—

Jawahirat-i-Nasr.

Nayrang-i-Khiyal, Part I.

Poetry.—

Diwan-i-Hali-Qit'at and Ghazaliyyath.

Non-detailed.—

Azad Kay Karnamay, Vol. I.

Prem Pachchisi, Vol. I.

Grammar.—

Asas-i-Urdu.

PART III-B.

Prose.—

Maw'izai Hasanah.

Nayrang-i-Khiyal, Part I.

Poetry.—

Intikhabi-Kalami-Mir by Nurur Rahman.

Diwan-i-Hali—Qit'at only.

Non-detailed.—

Prem Pachchisi, Vol. I.

Muntakhab Afsanay, Vol. 9.

Note:—The above books can be had from the Islamiah Book Depot, Kurnool.

HEBREW.

1936.

PARTS II AND III-B.

Genesis, Chapters 12—22.

Isaiah, Chapters 40—49.

Psalms, 25—48.

Book of Ruth.

EXAMINATION, 1936.

TAMIL.

1936.

PART II.

Poetry.—

*(Selections published by the University)—	Lines.
1. Kuruntokai .. .. குறுந்தொகை.	30
2. Naladiyar— 3 Chapters .. .. .. நாலடியார்.—3 அதிகாரங்கள்.	120
3. Palamoli—20 Stanzas .. .. .. பழமொழி—20 பாட்டு.	80
4. Kambaramayanam—Choolamani Padalam .. கம்பராமாயணம்—சூளாமணிப்படலம்.	240
5. Villiputturar Bharatham—Kandavadahanam .. வில்லிபுத்தூரார் பாரதம்—காண்டவதகனம்.	232
6. Tiruvadavurar Puranam—Mansumanda Sarukkam. திருவாதவூரர் புராணம்—மண்சுமந்த சருக்கம்.	300
7. Sreeranganayakar Oosal .. .. .. ஸ்ரீரங்கநாயகர் ஊசல்.	40
8. Muttukumaraswami Pillaittamil .. .. முத்துக்குமாரசாமி பிள்ளைத்தமிழ்.	80
9. Kayavan Kalvi Arumai Arindadu .. .. கயவன் கல்வி அருமை அறிந்தது.	92

Prose—Detailed.—

1. Tamil Perumakkal Varalaru by S. Anavaratavinayakam Pillai, M.A., L.T., "Limbdi Gardens", Royapettah, Madras.
   தமிழ்ப் பெருமக்கள் வரலாறு.
2. Nakkeerar by N. M. Venkataswami Nattar, Annamalai University.
   நக்கீரர்.

Non-detailed.—

1. Janavinodini, Vol. XIX, Part II, by C. R. Namasivaya Mudaliyar, (Tamil Kadal Press, San Thome, Madras).
   ஜநவிநோதிநி.
2. Manimekalai Vacanam by Swami Chidambaranar (E. M. Gopalakrishna Kone, Pudumandapam, Madura).
   மணிமேகலை வசனம்.

*Copies can be had from Messrs. E. M. Gopalakrishna Kone, 158-A, Broadway, Madras.

PART III-B.

Poetry.—

University Intermediate Selections.

1. Aranericcharam.
2. Kucelopakhyanam.
3. Tayumanavar.
4. Pulavaratruppadai.
5. Nacchinarkkiniyar.
6. Kambanadar.

Prose.—

1. Janavinodini, Part IV, Edited by C. R. Namasivaya Mudaliyar. (Tamil Kadal Office, Mylapore, Madras).
2. Kalingattuparani by T. Chelvakesavaraya Mudaliyar. (T. P. Alagan, Bookseller, Perambur, Madras).

TELUGU.

1936.

PART II.

Old Poetry.—

1. Bharatamu—Adiparvamu—Canto 1, *verses* 65 to 164.
2. Parijathapaharanamu, Canto 2, *verses* 1 to 82 with Parimalollasamu by N. Kuppuswamiah. (Available at the Andhra Patrika Office, G. T., Madras.)
3. Vishnupuranamu, Canto 1—Dhruvopakhayanamu, *verses* 258 to 332. (Published by the Madras University, Copies available at C. Coomaraswami Naidu & Sons, G. T., Madras).
4. Ranganadharamayanamu—Padukapattabhishekamu—lines 510.

Modern Poetry.—

Hampi Kshetramu by Kodali Venkatasubba Rao, B.A. (Copies available with Kodali Sivaramakrishna Rao, Sub-Editor, Andhra Patrika, Madras).

Drama.—

Valmiki by Kallakuri Gopala Rau Garu, (Copies available at Visalya Depot, 4, Acharappan Lane, G. T., Madras).

EXAMINATION, 1936.

Detailed Prose.—

1. Bhishmavijayamu by A. Arunachala Sastri—1st 94 pages only. (Copies available with the author, Telugu Pandit, Maharaja's Sanskrit College, Vizianagaram).

2. Damayanti by Ramakrishna Kavulu. (Copies available with Vavilla & Sons, Madras).

Non-detailed Prose.—

1. Sanjayarayabaramu by D. Venkatakrishna Rao, (Copies available with the Author, Berhampur).

2. Desa Bhaktudu (Kandan, the Patriot by K. S. Venkataramani). Translation published by V. Venkateswara Sastrulu. (Copies available with Vavilla & Sons, Madras).

Grammar.—

Margopadesika, Part II, by V. Ch. Seetarama Sastri Garu.

PART III-B.

The same as for 1935, i.e.—

Poetry (Old).—

1. Bharatamu—Adiparvamu, Canto, I, Verses 65—164.

2. Parijatapaharanamu, canto II, Verses 1—82—with Parimalollasamu by N. Kuppuswamiah, available at Andhra Patrika Office, G. T., Madras.

3. Ranganadharamayanamu — Paduka Pattabhishekamu — Lines 510.

Poetry (Modern).—

4. Tukaram by S. Veerabrahmakavi. Canto III—Copies available with the Author, Telugu Pandit, Noble College, Masulipatam.

Drama.—

Abhignana Sakuntalamu—translated by Vatsavayi Neeladri Raju Garu, Tuni. (Copies available with the Author, Tuni).

Detailed Prose.—

Bhagavathamu, Navamaskandhamu by Sataghantam Venkataranga Sastri—(available with Messrs. V. Ramaswami Sastrulu & Sons, Madras).

Non-detailed Prose.—

Vikramarka Charitramu by Bhagavatula Ramamurthi Sastri —available at Messrs. Vavilla Ramaswami Sastrulu & Sons, Madras,

KANARESE.

1936.

PARTS II AND III-B.

Detailed Study.—

1. Jaimini Bharata by Lakshmisa—Sandhis 3 and 4, omitting Stanzas Nos. 7, 9, 23 and 29 in Sandhi 3 and Stanza No. 1, in Sandhi 4. (Bala Sahitya Mandala, Mangalore).
2. Karnataka Raghuvamsa by Y. Nagesa Sastri—Sarga 5. (The Author, Wardlaw High School, Bellary).
3. Bhartrihari Neethi Sataka by Basappa Sastri—Stanzas 1 to 50. (B. Mahadeva Sastri, Kerlapur P. O., Hassan District).
4. Nalme by K. Sankara Bhatta—portion containing Honniya Maduve, pp. 1—32. (Satyashodhana Book Depot, Fort, Bangalore).
5. Agraha by V. Sitaramayya, (Ram Mohan Company, Balepet, Bangalore City).
6. Pancharatra by M. D. Alasingaracharya, (Karnataka Book Depot, 1-59, Sannadhi Street, Triplicane, Madras).

Non-detailed Study.—

1. Namma Oorina Rasikaru by Gorur Ramaswami Ayyangar, (Ram Mohan Company, Balepet, Bangalore City).
2. Dharmadani Buddha by G. P. Rajaratnam. (Ram Mohan Company, Balepet, Bangalore City).
3. Rani Choudhurani, Part I, by Balasaraswathi. (K. A. Chowrappa & Sons, Avenue Road Bangalore City).

MALAYALAM.

1936.

PART II.

Non-detailed study.—(Composition and Translation).

1. Vira Ravi Varma Chakravarti, by Kongot Krishnan Nair, Kollengode, S. Malabar.
2. Mrinālini—By R. Narayana Panikkar, B.A., L.T., (S. R. Book Depot, Puthanchantai, Trivandrum).

***Detailed Study*—**

***Poetry.*—**

1. **Bālakāndam from Adhyatma Ramayanam—By Ezuthachan (Any Press).**

2. Puttariyankam—Edited by C. Achyuta Menon, B.A., University Research Institute, Limbdi Gardens, Royapettah, Madras.

3. The following selections from Prabhātapushpam—By Koothattukulam Mary John, Nanthangode House, Trivandrum. Pieces, 1, 3, 6, 8, 9 and 12.

Drama.—

Subhadrārjunam—By T. Ikkavu Amma (National Book Depot, Kottayam, Travancore, or Mrs. K. Madhava Raja, "Devi Vilas", Palghat.

Prose.—

1. Gadyakusumāvali Part II—Edited by P. Krishnan Nair, (Siromani), (National Book Depot, Kottayam, Travancore).

2. Udayanan—By P. R. D. Sarma, S. B. College, Chenganacherry, Travancore.

PART III-B.

The same as for 1935, (i.e.).—

Non-detailed Prose—

Vanabala, by Pallath I. Raman (Published by the Kohinoor Publishing House, Ponnani, South Malabar).

Detailed-Study.—

Poetry.—

1. Kannuneerthulli—By Nalappat Narayana Menon, Andathode, S. Malabar.

2. Kuchela Vritham—Vanchipattu—By Ramapurath Varier, (any Press).

Drama.—

Veni Samharam—By Pantalam Kerala Varma, (S. R. Book Depot, Puthanchantai, Trivandrum).

APPENDIX III.

B.A. DEGREE EXAMINATION.

(New Regulations.)

COURSES AND SYLLABUSES.

Mathematics, (Main.)

Groups (i-a), (i-b) and (ii-a—Main).

(1) ALGEBRA AND TRIGONOMETRY.

Algebra.—Inequalities, limits, elementary theorems in convergence and divergence of series. The binomial theorem for a rational index. Exponential and logarithmic series. Partial fractions. Elementary methods for the summation of series. The elementary properties of continued fractions. Indeterminate equations of the first degree. Elementary properties of determinants. Typical graphs : $y=axn$, $y=a/xn$, $y=ax+b+c/x$ $y=ax+b+c/x$. Graphical solution of cubic and biquadratic equations. General properties of the equation of the nth degree and its roots and coefficients. *Simple* transformations of equations. Reciprocal equations. Approximate solution of numerical equations.

Trigonometry.—Fuller treatment of the Intermediate Course. Quadrilaterals inscribed in and circumscribed about circles. Regular polygons. Limits of $\sin x / x$ and $\tan x / x$ as x tends to zero. DeMoivre's theorem and its *immediate* applications. Summation of elementary trigonometrical series.

(2) CALCULUS.

Calculus.—Standard forms and fundamental processes of differentiation and integration. Simple applications of the derivative to geometry, algebra, mechanics and physics. Maxima and minima values of a function of one variable. Theorem of mean value (graphical proof). Approximations and small errors. Curvature; Cartesian formula for the radius of curvature. Integration by substitution. Integration by parts. Integration regarded as summation, with simple applications to areas, volumes and surfaces and to mechanics. Solution of the differential equation of simple harmonic motion.

(3) GEOMETRY.

Pure Geometry.—As in the Intermediate Course, and, in addition, harmonic ranges and pencils. Inversion.

Geometry of the line, plane, sphere, the right cylinder and the right cone.

The fundamental geometrical properties of the conic sections.

Analytical Geometry.—The Cartesian equations of the straight line and the circle referred to rectangular axes, the parabola, ellipse, and hyperbola referred to their principal axes, and the

rectangular hyperbola referred to its asymptotes. The general equation of the second degree. The polar equations of the straight line, circle and the conic. Simple problems on the above.

Geometrical Conics.

Such leading properties of Conic Sections, as are specially suitable for treatment by elementary geometry.

Detailed Syllabus.

Focus-directrix definition of the conic; shape, axes of symmetry, centre, foci. The ellipse as orthogonal projection of a circle.

Geometrical treatment of the following propositions and their immediate applications.

1. If a chord PQ of a conic, whose focus is S, meets the corresponding directrix in R, SR is a bisector of PSQ.

2. The tangents from any point to a conic subtend equal or supplementary angles at a focus.

3. The semi-latus-rectum is a harmonic mean between the segments of a focal chord.

4. The locus of midpoints of parallel chords of a conic is a diameter.

5. The sub-tangent of a parabola is bisected at the vertex, and the sub-normal is constant.

6. The foot of the perpendicular from the focus on any tangent of a parabola lies on the tangent at the vertex.

7. The focal chord of a parabola parallel to the tangent at P is equal to 4 SP.

8. $PV^2=4$ SK. KV. where PV is an ordinate to the diameter of the parabola through K.

9. The sum or difference of the focal distances of any point on a central conic is constant.

10. The tangent and normal to a central conic at P are bisectors of SPS^1.

11. The feet of the perpendiculars from the foci on any tangent lie on the auxiliary circle, and the rectangle under these perpendiculars is constant.

12. The sum of the squares of conjugate diameters of an ellipse in constant.

13. The locus of meets of perpendicular tangents of a conic is a circle, which reduces to a straight line when the conic is a parabola.

14. Every plane section of a right circular cone or cylinder is a conic.

(4) Dynamics.

Dynamics.—Resolution and composition of displacements, velocities, and accelerations. Curves of speed and velocity diagrams. Motion of a particle in one plane under constant accelerations. Simple harmonic motion; composition of simple harmonic motions. Angular velocity and angular acceleration; moment of velocity.

Absolute units of force. Resolution and composition of forces. Angular momentum: moments of inertia in simple cases; the pendulum; determination of g. Work, energy, conservation of energy; energy diagrams. Impact; the ballistic pendulum. Simple cases of the dynamics of strings. Dimensions of dynamical units. Conditions of equilibrium of a body acted on by forces in one plane, Moments, couples. Centre of mass. The theory of simple machines. Laws of friction. Graphical methods with simple applications.

Group (i a) only.

Astronomy.

The apparent motion of the heavens. Circumpolar stars. The principal constellations and the most conspicuous stars.

The Celestial Sphere.—Points and lines on it:—Horizon, zenith, poles, meridian, etc.: the equinoctial points, etc.

Celestial co-ordinate; right ascension, declination, etc., latitude and longitude.

The transit circle, the equatorial, the clock, the transit theodolite. The sextant and the chronometer.

Phenomena depending on change of latitude and longitude of the observer. Magnitude of the earth.

The apparent annual motion of the sun. The constellations of the zodiac. The ecliptic and its obliquity. The equinoxes and the solstices. The earth's motion round the sun. The seasons.

Sidereal time, apparent solar time, mean solar time, equation of time. Standard time (India). Civil and astronomical reckoning. Conversion of time.

Explanation of astronomical refraction and parallax. Twilight.

Determination by observation of clock error and rate, of right ascension and declination of a heavenly body, and of the latitude and longitude of a station.

The solar system, and the motion of the planets, Kepler's laws. Comets and meteors.

The motion of the moon and her phases. The plane of her orbit. The nodes and their motion. The moon's sidereal and synodic periods. Her diameter and distance.

Distances and magnitudes of the sun, moon and planets.

Causes of the eclipses of the sun and the moon. Ecliptic limits. Number of eclipses in a year. The Calendar. The use of the Nautical Almanac.

HYDROSTATICS, PROPERTIES OF MATTER AND HEAT.

Hydrostatics.—Thrust of fluid on plane and curved surfaces. Centre of pressure in simple cases. Floating bodies and conditions of stability. Properties of gases; determination of heights by barometer. Pumps, pressure gauges, and hydrostatic machines. Capillary phenomena and their explanation by surface tension; general theory of surface tension.

Properties of matter.—Elasticity. Hooke's Law. Compressibility of gases (at high and low pressure) and liquids. Compressibility and rigidity of solids; the elastic limits. Strains due to simple longitudinal pull; Young's modulus and its expression in terms of k and n. Bending in one plane of bars of simple cross sectional area; flexural rigidity: application to girders. Simple twisting of wires of circular cross sectional area by couple in plane at right angles to length; torsional rigidity; applications to torsion balance, and shafts.

Diffusion of liquids and gases; analogy with conduction of heat. Osmosis, viscosity. Pressure of a gas and its explanation on the kinetic theory; Avogadro's hypothesis; Van der Waal's equation.

Heat.—The methods of calorimetry and thermometry. Vapour pressure, critical temperature and pressure. Conduction and diffusion of heat and the determination of constants. Radiation and absorption; laws of cooling. Theory of exchanges; methods of measuring radiation. Laws of thermodynamics; Simple applications.

Group (i-b)

Optional Subjects.

1. ASTRONOMY.

The stars, the rotation of the earth, the celestial sphere. The principal instruments; determination of latitude and longitude. Distance and magnitude of the heavenly bodies. Refraction.

Simple problems connected with the diurnal motion. Apparent annual motion of the Sun, aberration; the equation of time. The nautical almanac. The motion of the moon; eclipses.

The stellar system.

Detailed Syllabus.

The most conspicuous stars. The principal constellations. The signs of the Zodiac. Double and multiple stars. Variable stars. Nebulae, comets and meteors.

The apparent motion of the heavens and its explanation by the rotation of the earth. Arguments and proofs for the earth's rotation. Foucault's gyroscope and pendulum experiments.

The celestial sphere and the different systems of co-ordinates.

The telescope. Reflectors and refractors. Advantages and disadvantages of the two. The transit theodolite. The transit instrument, meridian circle, the clock. The chronometer. The chronograph. The equatorial. Sextant. Zenith telescope. The principal errors of the transit instrument and their corrections.

Determination by observation of clock error and rate; the right ascension and declination of a heavenly body; latitude and longitude of a place on land or sea. Summer's method.

Form and size of the earth. Phenomena depending on a change of the observer's place on the earth. Parallax (diurnal and annual). Distance and magnitude of the sun, moon and the planets and stars.

The atmosphere and the effect on astronomical observations. The tangent formula for refraction. Cassini's formula. Twilight.

Simple problems connected with the diurnal motion. (Right angled spherical triangle; sine and cosine formulæ). The apparent annual motion of the sun and its consequences. The ecliptic and its obliquity. The position of the ecliptic at any given instant. The equinoxes and solstices. Determination of the first point of Aries and the obliquity of the ecliptic. Effects of precession and nutation.

The earth's motion round the sun. Aberration and its effects. Kepler's Laws and Newton's deductions therefrom. True anomaly, mean anomaly and lengths of the seasons. Sidereal Time. Apparent solar time. Mean solar time. Equation of time. The calendar. The use of the Nautical Almanac. Standard Time (India).

The motion of the moon and her phases. The nodes and their motion. The moon's sidereal and synodic periods. Eclipses and their causes. Ecliptic limits. Number of eclipses in a year. The Saros.

The solar system and the direct and retrograde motions of planets (coplanar circular orbits). The stationary positions, durations of direct and retrograde motions. Phases of planets.

A general descriptive idea of the stellar system.

Books recommended for Study.

1. Barlow and Bryan: Astronomy.
2. Ball: The Story of the Heavens.
3. Moulton: Introduction to Astronomy.
4. Russell, Dugan and Stewart: Astronomy, Volume I.
5. Spencer Jones: General Astronomy of chapters XII to XIV outlines only.
6. Parker: Astronomy.

Books for Reference.

1. Ball: Spherical Astronomy.
2. Russell, Dugan and Stewart: Astronomy, Volume II.
3. Hutchinson: Splendour of the Heavens, Volumes I and II.
4. Godfray: Astronomy.

2. ELEMENTS OF STATISTICS.

The course is intended to cover the elements of statistical method, and to give an introduction to the methods of computation.

(a) *Elements of Statistical Method.*

Collection of statistics, tabulation, computation, frequency distribution, correlation table.

(b) *Applications.*

A candidate will be expected to show some knowledge of the application of statistical methods to the following: index numbers, mortality table.

(c) *Practical Work.*

A candidate shall have undergone a course of practical instruction which should extend to about twenty-five hours.

This should cover:—

Computation and plotting, including use of tables and of semi-logarithmic paper, tabulation, use of the histogram, sketching of frequency curve from histogram; fitting of normal curve; determination of deviation, medium. Simple case of correlation co-efficient.

Exercises on subjects in (b).

Detailed Syllabus.

(a) *Elements of Statistical Method.*

Collection of Statistics.	Objects in view. Census as an example. Variables. Scheme. Principles to be observed. Size of samples required.
Tabulation	Classes. Choice of class interval.
Computation	Semi-logarithmic paper, Multiplication Tables. Barlow's Tables, Slide rule, Pearson's Tables.
Frequency Distribution, (One variable).	Histogram. Frequency polygon. Chance distribution, binomial, normal curve, frequency curve. Average; mean, median, mode. Skewness. Dispersion, mean deviation, standard deviation. Ogive, quartiles, probable error. Sampling.
Correlation Table, (Two variables)	Co-efficient of correlation, regression lines, correlation ratio.

The following book is recommended:—

Cavett, G. Irving: First Course in Statistical Method. Mc. Graw Hill Publishing Co., London.

3. ECONOMICS.

Detailed Syllabus.

Introductory.—Nature and Scope of Economics—Place of Economics among Social Sciences. Principal Economic Concepts. Economic Laws and Methods of Economic Science.

Consumption.—Wants of Man—Utility—Marginal Utility—Bernoulian Hypothesis, Law of Demand, Demand Curves, Elasticity of Demand—Consumers' Surplus.

Production.—Agents of Production—Land—Labour—Capital—Laws of Production—Increasing, Decreasing and Constant Returns, Marginal Cost—Law of Decreasing and Increasing Return as applied to Land and Industry. Effect of Tax or Bounty on Production.

Value and Exchange.—Evolution of the Market—Value—Theories of Value—Analysis of Supply and Demand—Curves of Demand and Supply—Equilibrium Position—Oscillation about Equilibrium—Price—Value during Long and Short Periods—Prices under Free Competition—Theory of Monopoly Prices.

Mechanism of Exchange.—Money—Evolution and Functions of Money. The Quantity Theory of Money. Systems of Money—Gold Standard and its Variants—History of Indian Currency—Credit, its Meaning and forms—Credit and Prices—Paper Money—Convertibility and Inconvertibility—Purchasing Power.

Distribution.—General Theory of Distribution—Law of Rent, Interest—Profits and Wages and the Causes of their Variation—The National Income and its Distribution—Problems of Distribution.

Public Finance.—The Economic Functions of the State—Public Expenditure and Sources of Public Revenue. General Principles of Taxation—Direct and Indirect Taxes, Public Debts.

International Trade.—The Basis of International Exchange—Free Trade and Production—Tariffs and Bounties—Balance of Trade—Foreign Exchanges—The Rupee Exchange.

Index Numbers.—Their Uses and Methods of Formation.

N.B.—Candidates will be expected to use mathematical and graphical methods in the development of the subject.

4. PURE GEOMETRY.

Properties of triangles. Coaxal systems of circles. Inversion. Conical and orthogonal projections. Cross ratios. Projective ranges and pencils. Involution. Non-focal properties of conics. The cross-ratio properties of conics. Reciprocation. Duality. Circular points.

Detailed Syllabus.

Properties of triangles (isogonal conjugates, Lemoine points and the two Lemoine circles). The coaxal system of circles; limit points. The theory of inversion.

General properties relating to conical and orthogonal projection. Imaginary elements and the principle of continuity. Desargues's theorem of projective triangles. Cross ratios. Projective ranges and pencils are equicross and conversely. Two projective ranges on the same straight line have two self-corresponding points. Harmonic section; harmonic property of the pole and polar of a circle; of the complete quadrilateral and the complete quadrangle. Pappus's theorem.

The involution range and the involution pencil. The double elements are separated harmonically by every pair of corresponding elements. If AA_1, BB_1, CC_1 are in involution, the ranges $ABCA_1$, $A_1B_1C_1A$ are equicross and conversely. Two involution-ranges on the same line have one and only one common corresponding pair. The definition of the circular points by means of the orthogonal involution pencil.

The study of the conic as projection of the circle. Non-focal properties common to all conics. Properties of the parabola, ellipse, hyperbola, rectangular hyperbola.

Cross ratio properties of conics. Pascal's and Brianchon's Theorems. Projective and involution ranges on a conic.

Reciprocation with respect to a conic, and with respect to a circle. Duality.

Every circle passes through the circular points, and every conic through the circular points in a circle. Concentric circles have double contact at the circular points. The cross ratio O(-O- -O- 'AB) depends only on the angle AOB. The definition of the foci of a conic by means of the circular points.

5. Analysis.

i. Differential and Integral Calculus.

Limit of a function. Differentiation. Mean value theorem and Taylor's series. Geometrical applications.

Integration as an inverse process. Reduction formulae.

Integral as the limit of a sum. Simpson's rule.

Application of integration to mensuration.

ii. Infinite Series and Products.

Infinite sequences. Sequence definition of e.

Tests for series. Exponential theorem.

Infinite products, sin x and cos x as infinite products.

The complex variable, the elementary transcendental functions of the complex variable.

iii. Differential Equations.

Formation of differential equations.

Solution of the simplest types.

Detailed Syllabus.

(i) Differential and Integral Calculus.

Monotonic functions. Continuous and discontinuous functions with graphical illustrations. Limit of a function. Standard limit theorems required for differentiation.

Rules of differentiation. Successive differentiation. Leibniz's Theorem.

Rolle's Theorem. Mean value theorem with Lagrange's and Cauchy's form of remainder. Applications to maxima and minima, to indeterminate forms. Infinite Taylor expansions of elementary functions like exp x, sin x, log $(1+x)$, etc., proofs.

Application of the derivative to plane curves; tangent; normal, etc., in Cartesian and polar co-ordinates. (p, r) equations, pedals.

Curvature—formulæ in rectangular and polar co-ordinates. Intrinsic equations, evolutes, envelopes.

Properties of the cycloid, cardioid, and catenary.

Integration as an inverse process. Standard forms. Reduction formulae.

Definite integral as a limit of a sum. Proof of the existence of limit when function is monotonic. Reduction formulae for definite integrals. Approximate integration. Simpson's rule.

Application of integrals to mensuration. Areas and lengths of plane curves in cartesian and polar co-ordinates. Volumes and areas of surfaces of revolution. Centre of inertia, moments of inertia, of plane laminas and solids of revolution.

(ii) *Infinite Series and Products.*

Infinite sequences and the classification of their modes of behaviour. Monotonic sequences. Bounded monotonic sequences tend to a limit (only intuitive proof). Standard limits including limits of $\left(1+\frac{1}{n}\right)^n, \left(1-\frac{1}{n}\right)^{-n}$.

Cauchy's condensation test. Dirichlet's and Abel's tests. Absolutely convergent double series. Theorems on the multiplication of absolutely convergent series. Application to the proof of the exponential theorem.

Convergence of infinite products $\Pi\left(1+a_n\right)$, $\Pi\left(1-a_n\right)$, when $0 < a_n < 1$

Infinite products for $\sin x$, $\cos x$.

Power series in a complex variable ; circle of convergence. Simple properties of $\exp z$, $\log z$, $\sin z$, $\tan z$, $\sin z$, etc., z being a complex variable. Easy examples in the summation of trigonometric series, and in the expansions of trigonometric functions including inverse function.

(iii) *Differential Equations.*

Formation of Differential Equations.

Variable Separable.

Homogeneous Equations $M+N\frac{dy}{dx} = 0$.

Linear Equations $\frac{dy}{dx} + Py = Q$.

Geometrical interpretation of a differential equation of the first order and first degree.

Orthogonal trajectories, (Cartesian and polar co-ordinates).
Differential equation of the second order of the following types:

$$\phi\left(\frac{d^2y}{dx^2}, \frac{dy}{dx}, Vx\right) = 0,$$

$$\phi\left(\frac{d^2y}{dx^2}, \frac{dy}{dx}, y\right) = 0,$$

$$\frac{d^2y}{dx^2} + P\frac{dy}{dx} + Qy = R.$$

where P, Q, R are functions of x, and a solution of the equation with the right-hand side zero is known.

Linear equations with constant coefficients:

$$\frac{d^ny}{dx^n} + A_1\frac{d^{n-1}y}{dx^{n-1}} + \ldots + A_n\, y = V$$

where V is a sum of functions of the type exp nx, sin nx, cos nx ; x^n.

Simple geometric and dynamical applications of the above equations.

(ii-b) Physics—Main.

The course includes a more extended study of the matter included in the Intermediate course and in addition the following:—

Dynamics.—Resolution and composition of displacements, velocities, and accelerations. Curves of speed and velocity diagrams. Motion of a particle in one plane under constant acceleration. Simple harmonic motion; composition of simple harmonic motions. Angular velocity and angular acceleration; moment of velocity.

Absolute units of force. Resolution and composition of forces. Angular momentum; moments of inertia in simple cases. The pendulum; determination of g. Work, energy, conservation of energy, energy diagrams. Impact. Dimensions of dynamical units. Conditions of equilibrium of a body acted on by forces in one plane. Moments, couples. Centre of mass. The theory of simple machines. Laws of friction.

Properties of matter.—Elasticity: Hooke's Law; the elastic limits. Compressibility of gases at high and low pressure. Rigidity of solids. Strains due to simple longitudinal pull; Young's modulus and its expression in terms of k and n. Experimental study of bending in one plane of bars of simple cross sectional area; application to girders. Simple twisting of wires of circular cross section, by couple in plane at right angles to length; torsional rigidity; applications to torsion balance, and shafts.

Diffusion of liquids; analogy with conduction of heat. Osmosis. Experimental study of Viscosity. Pressure of a gas and its explanation on the kinetic theory; Avogadro's hypothesis; Van der Waal's equation.

Hydrostatics.—Thrust of fluid on plane surfaces. Centre of pressure in simple cases. Floating bodies and conditions of stability. Properties of gases. Pumps, pressure gauges, and hydrostatic machines. Capillary phenomena and their explanation by surface tension.

Heat.—Expansion, calorimetry and thermometry. Vapour pressure, critical temperature and pressure. Conduction of heat and determination of conductivity. Radiation and absorption; laws of cooling. Theory of exchanges; methods of measuring radiation. Mechanical equivalent of heat; Carnot's Theorem; absolute scale of temperature.

Light.—Illumination; photometry. Aberration, spherical and chromatic; direct vision spectroscope.

Velocity of light. The wave theory; simple interference phenomena, Huygens' principle. Explanation of straight line propagation, reflexion and refraction of light. Simple diffraction phenomena. Plane gratings and wave length determination. Spectrum analysis; Doppler's principle. Double refraction and polarization of light; rotatory polarization; simple applications.

Magnetism.—Forces on a magnet in a magnetic field. Determination of the axis and moment of a magnet; determination of field strength. Magnetic shell: magnetic potential due to a shell of uniform strength. Total normal induction, Gauss' theorem; number of lines of force. Magnetic induction in iron, etc. Theory of magnetism.

The magnetic field of the earth; the magnetic elements and their determination.

Electricity.—Electric capacity; specific inductive capacity; the dielectric constant. Distribution of electricity on surface of conductors. Mechanical force on charged conductors; energy of electrified systems.

Wheatstone's bridge; specific resistance; resistance thermometers. Conductivity of electrolytes; ionization; migration phenomena; accumulators; standard cells. The potentiometer system of measurement. Thermoelectric phenomena. Electromagnetic induction; co-efficients of induction; induction coils; mechanical force on conductors carrying current; moving coil instruments. Lenz's law; illustration from dynamos and motors. Experimental wireless and X-rays.

The experimental study of the continuous current dynamo and motor and of the alternate current dynamo. General principles of the application of electricity to lighting, power transmission, telegraphy, etc.

Sound.—The transmission of energy through material media by wave motion; speed of propagation of waves of permanent

type. Nature of musical sound; scales. The vibration of strings, and gas columns; resonance. Interference and diffraction phenomena. Analysis of sound. Measurement of wave length, velocity and pitch.

A practical examination will be held to test the candidate's acquaintance with the phenomena and his ability to show them, as well as his ability to make physical measurements. At the practical examination candidates must submit to the Examiner or Examiners their laboratory note-books duly certified by their professors or lectures as a *bona fide* record of work done by the candidates.

Books for Study:—

Subject matter as given in the following books is to be studied, omitting portions not covered by the syllabus.

Loney: Elements of Dynamics, and Statics and Hydrostatics.

Wagstaff: Properties of Matter.

Capstick: Sound.

Edser: Heat.

Edser: Light.

Hadley: Electricity and Magnetism.

Reference:—

Edser: General Physics.

Catchpool: Sound.

Brooks and Poyser: Electricity and Magnetism.

Bedford: Practical Physics.

Searle: Experimental Elasticity.

Porter: Intermediate Course in Mechanics.

Poynting and Thompson: Heat.

Clay: Treatise on Practical Light.

Watson: Practical Physics.

Nightingale: Sound.

(ii-c) Chemistry—Main.

General Theoretical Chemistry and Physical Chemistry.—The methods of determining equivalents; atomic and molecular weights; the atomic theory; valency; osmotic pressure; the kinetic theory of gases; the properties of solutions; electrolysis and theory of electrolytic dissociation; the relations of the physical properties of substances to their chemical nature, with special

reference to the rotation of the plane of polarization, to refraction and dispersion, crystalline form, atomic and molecular volume, emission and absorption spectra.

The law of mass action; the velocity of chemical change; and the relations of chemical energy to heat, and to electrical energy.

The elements (excluding the rare metals) and their compounds studied in detail.

Organic Chemistry treated from an elementary standpoint comprising the following.—

Methods of purification of organic compounds. Qualitative and quantitative analysis. Empirical formulæ. Molecular weights of organic acids and bases. Molecular formulæ. Isomerism. Constitutional formulæ.

Paraffins. Alkyl halides. Alcohols. Alkyl esters of inorganic acids. Nitro-paraffins. Aldehydes and Ketones. Ethers. Fatty acids and their esters, etc. Fats, oils and soaps. Glycerol and its simple derivatives. Amines. Urea. Cyanogen compounds.

Olefines. Acetylenes, and their derivatives. Unsaturated acids. Geometrical isomerism. Dibasic acids of the oxalic series and their derivatives. Baeyer's Strain Theory. Acetoacetic ester. Tautomerism. Hydroxy-monobasic and polybasic acids with special reference to glycollic, lactic, malic, tartaric, and citric acids. Asymmetric carbon atom and optical activity. Simple Amino-acids. Sugars with special reference to Glucose, Fructose and Sucrose. Starch. Cellulose.

Benzene and its homologues. Sulphonic, Nitro-,Amino-, and halogen derivatives of aromatic hydrocarbons. Diazonium compounds and their reactions. Simple Azodyes. Phenols. Quinones. Benzyl Alcohol, Benzaldehyde and Benzoic acid and their important derivatives. Acetophenone. Salicylic Aldehyde and Acid, Cinnamic Aldehyde and Acid, Anthranilic Acid, Phthalic Acids and their common derivatives. Laws of orientation and substitution in aromatic compounds. Triphenyl-methane dyes with special reference to Malachite Green, Pararosaniline and Rosaniline. Naphthalene and its more important substitution products. Anthracene, Anthraquinone, Alizarin. Colour and chemical constitution.

The practical examination in Chemistry will include—

1. Qualitative analysis, including analysis of mixtures of mineral substances.

2. Quantitative analysis, including (*a*) the estimation of alkalis, alkaline carbonates, and acids, by neutralization, (*b*) determinations involving the use of the permanganate, dichromate, iodine and thiosulphate processes, (*c*) the estimation of chlorides and cyanides by titration with silver nitrate, and also

with thiocyanate, (*d*) gravimetric determinations of iron, calcium, copper, silver, lead, sulphuric acid, hydrochloric acid, phosphoric acid.

Candidates will be required to be able to standardize the solutions for volumetric analysis.

3. The determination of molecular weights.

4. Preparation of at least six simple organic substances: *e.g.*, Chloroform, Ether, Ethylacetate, Acetic Anhydride, Urea, Nitrobenzene, Aniline; Phenol; Benzoic Acid (from Toluene), Iodobenzene, Salicylic acid, Azo-dye, etc.

At the practical examination, candidates must submit to the Examiner or Examiners their laboratory note books (duly certified by their professors or lecturers) as a *bona fide* record of work done by the candidates.

Books for Study—

Partington: Text-book of Inorganic Chemistry (Macmillan).

Mellor: Modern Inorganic Chemistry (Longmans).

Caven and Lander: Systematic Inorganic Chemistry (Blackie).

Senter: Outlines of Physical Chemistry (Methuen).

Lowry and Sugden's Physical Chemistry (Macmillan 4s. 6d.).

Thorpe: History of Chemistry, 2 Volumes (Watts).

Caven: Systematic Qualitative Analysis (Blackie).

Caven: Quantitative Chemical Analysis, Parts 1 and 2 (Blackie).

Thorpe: Inorganic Chemical Preparations (Ginn).

Cohen: Practical Organic Chemistry for Advanced Students (Macmillan).

Taylor: Practical Physical Chemistry (O. U. P.)

Weston: Detection of Carbon Compounds (Longmans).

Perkin and Kipping: Organic Chemistry (Chambers).

Moreau: Fundamental Principles of Organic Chemistry (Bell).

Coward and Perkins: Exercises in Chemical Calculations (Arnold).

Lowry: Text-book of Inorganic Chemistry (Macmillan).

Reference—

Walker: Introduction to Physical Chemistry (Macmillan).

Russell: Chemistry of Radio-active Substances (Murray).

Read's Text-books of Organic Chemistry (G. Bell & Sons, 12*s.* 6*d.*).

1936.

The same as for 1935, with the following changes:—

Thorpe's *History of Chemistry to be placed* in the "List of Books for Reference" *instead of* in Books for Study.

Weston's Detection of Carbon Compounds *to be removed* from the List of Books for Study.

Botany, Zoology, Geology and Physiology.

In the parts covered by both syllabuses (of any one subject) the knowledge required for the examination in the subsidiary shall be less detailed than that in the main subject.

(ii-d) Botany—Main.

1. The main points of structure, development, life history and the taxonomic relation of the following groups in general and the genera in particular:—

Bacteria.

Cyanophyceae.

Oscillaria, Nostoc, Rivularia.

Chlorophyceae.

Chlamydomonas, Pandorina, Eudorina, Pleodorina, Volvox, Ulothrix, Oedogonium, Enteromorpha, Pleurococcus, Cladophora, Vaucheria, Caulerpa, Spirogyra, Desmids, Chara or Nitella, Diatoms.

Phaeophyceae.

Ectocarpus, Fucus, Dictyota.

Rhodophyceae.

Batrachospermum, Polysiphonia, Gracilaria.

Phycomycetes.

Phytophthora, Saprolegnia, Mucor or Rhizopus.

Ascomycetes.

Erysiphe, Peziza, Saccharomyces,

Basidiomycetes.

Ustilago, Puccinia, Agaricus, Polyporus.

Lichens.

Bryophytes.

Riccia, Fimbriaria, Anthoceros and any one Moss.

Pteridophytes.

Any one Polystelic Fern, Marsilia, Lycopodium and Selaginella.

Gymnosperms.

Pinus, Cycas.

2. The external morphology of flowering plants.

3. The general principles of classification and the distinguishing characteristics of the following Natural Orders as used in the Flora of British India:—

Anonaceae.
Nymphaeaceae.
Capparidaceae.
Guttiferae
Malvaceae.
Sterculiaceae
Geraniaeae.
Rutaceae.
Meliaceae.
Rhamnaceae.
Sapindaceae.
Anacardiaceae.
Papilionaceae.
Caesalpiniaceae.
Mimosaceae.
Rosaceae.
Combretaceae.
Myrtaceae.
Lythraceae.
Cucurbitaceae.
Umbelliferae.
Rubiaceae.
Compositae.
Sapotaceae.
Apocynaceae.
Asclepiadaceae.
Boraginaceae.
Convolvulaceae.
Solanaceae
Scorphulariaceae.
Acanthaceae.
Labiatae.
Verbenaceae.
Amarantaceae.
Loranthaceae.
Euphorbiaceae.
Urticaceae.
Lauraceae.
Orchidaceae.
Scitamineae.
Amaryllidaceae.
Liliaceae.
Commelinaceae.
Palmae.
Araceae.
Cyperaceae.
Gramineae.

4. *Plant Physiology.*

The chemical composition of the plant. Materials of plant food and their sources. The nature of soil and importance of its constituents and of micro-organisms. Movements of water and gases. Assimilation of carbon and nitrogen. Transpiration and translocation of the assimilated products. Metabolism. Parasitism and other special modes of nutrition. Respiration. The influence of light, heat and gravity. Growth, movements and irritability in plants. Sexual reproduction and its significance. Vegetative reproduction. The phenomena of cross-fertilization. Variation, Heredity and Mendelism. Theories of Evolution and Origin of Species.

5. *Histology.*

The structure and modes of division of the cell, and the nature of its contents. The nature and mode of origin of plastids, cell-sap and other cell-contents. The physical and chemical properties of protoplasm and cell-wall. The origin, nature and development of plant tissues, primary and secondary tissues and their distribution in the plant body.

Practical Work.

Candidates are expected to be able to make preparations illustrating the form and structure of any plant of the Groups or Orders mentioned in the syllabus and to describe them with sketches sufficient for their identification; to make dissections with the simple microscope of the floral parts of Phanerogams and to make drawings, construct floral diagrams and refer them to their Natural Orders; to describe in technical language plants belonging to any of the Orders or Groups specified in the syllabus.

At the practical examination each candidate must submit his laboratory note-books and a collection of named plants collected and preserved by himself.

Books for Reference—

Coulter, Barnes and Cowles: Text book of Botany, 3 Vols.

Ganong: Text book of Plant Physiology.

Bower: The Living plant.

Strasburgher: Text-book of Botany.

Ganong: A text-book of Botany for Colleges, Parts I and II.

Smith, Overton and Gilbert: Text-book of General Botany.

(ii-e) Zoology—Main.

(MAIN.)

Theory.

I. *Invertebrata.*—The leading features in the structure, the development, the affinities and classification of the following groups:—

Protozoa — Coelenterata — Platyhelminthes — Nemathelminthes (Nematoda)—Annelida (Chaetopoda and Hirudinea)—Arthropoda—Mollusca (Pelecypoda, Gastropoda and Cephalopoda)—Echinodermata.

II. *Chordata.*—The structure and the development of the vertebrate systems to be treated from an evolutionary standpoint as illustrated by representative types.

A general acquaintance with the vertebrate fauna of South India.

III. *Vertebrate Embryology.*—An elementary knowledge of the development of the chick.

IV. Outlines of the theories of Organic evolution and heredity.

Practical.

Candidates will be required to indentify and describe specimens and preparations illustrating points of zoological interest in connection with any of the groups mentioned above. They will also be required to make dissections and simple microscopic preparations of any of the following types:—

Earthworm; Nereis (external characters); Prawn (external characters); Cockroach; Scorpion; Fresh-water mussel; Ampullaria and Sepia (external characters); Shark; Frog; Pigeon; Rabbit or Hare. Candidates may also be required to identify and draw slides of developing Chick. Dissection of the nerves in the vertebrate types will not be required except in the case of the Shark and the Frog.

Books for Study—

1. Parker and Haswell: Text-book of Zoology—2 Vols. (Macmillan).
2. Shipley and MacBride: Text-book of Zoology—2 Vols. (Cambridge University Press).
3. Borradaile: Manual of Zoology (Oxford University Press).
4. Bourne (G. C.): Comparative Anatomy of Animals 2 Vols. (George Bell & Sons).
5. Graham Kerr: Evolution (Macmillan).

Practical—

1. Marshall: The Frog. (Macmillan).

   Marshall and Hurst: Practical Zoology (Smith Elder & Co.).

Reference—

1. Sedgwick (A): Student's Text-book of Zoology—3 Vols. (Swan Sonnenschein).
2. Lang (A): Text-book of Comparative Anatomy—2 Vols. (Macmillan).
3. Weidersheim: Elements of the Comparative Anatomy of Vertebrates (Macmillan).
4. Borradaile: Animal Life and its Environment (Henry Frowde and Hodder and Stoughton).
5. Lull: Organic Evolution: (Macmillan).
6. Kingsley: Comparative Anatomy of Vertebrates. (George Bell & Sons).
7. H. Reynolds: Vertebrate Skeleton (C. U. P.).
8. Holmes: Biology of the Frog, (Macmillan).
9. De Beer: Vertebrate Morphology (Sidgwick and Jackson, Ltd.).

(ii-f) Geology—Main

I. Physiography.
II. Mineralogy and Crystallography.
III. Petrology.
IV. Structural and Field Geology.
V. Stratigraphy and Palæontology.

(i) Physiography.

An elementary course of lectures on the following:—

The earth as a planet, its general relations to the other members of the solar system, hypotheses as to the origin of the earth; form, size and density of the earth; its movements and their effects.

The Atmosphere—its composition, height, density; pressure, temperature, moisture and movements; weather, refraction, twilight, and aurora-borealis.

The Hydrosphere—its composition, extent and distribution, depth, temperature and movements.

The Lithosphere—the chief constituents of the earth's crust, the general characters and mode of occurrence of igneous and sedimentary rocks. Condition of the interior of the earth.

Agents of geological change.—The hypogene and epigene agents of geological change, manner and results of their action, especially as influencing earth-sculpture—the destruction, construction, and gradual evolution of the crust of the earth and of its surface features.

Fossils, the main conditions favourable for their formation and preservation and their value as interpreters of the past history of the earth.

Climates—their causes and distribution; glacial epochs.

Simple facts about the geographical and geological distribution of the chief types of plant and animal life. Antiquity of man. Views as to the age of the earth's crust.

(ii) Mineralogy and Crystallography.

Symmetry; lines, planes and axes of symmetry; laws of Crystallography; the common holohedral, hemihedral and hemimorphic crystal forms and combinations under each of the six crystal systems; the more important types of twins and twinning; drawing of the more important crystal forms; systems of crystal notation, use of the contact Goniometer.

The principal physical properties of minerals which aid in the recognition of the various mineral species.

Isomorphism, paramorphism, pseudomorphism and dimorphism.

The chief characteristics of all the more abundant minerals including both those which are of geological interest and those of commercial value, their modes of occurrence and uses.

The practical determination of the chief physical and chemical properties of the commoner ores and minerals, including the use of the blowpipe.

(iii) Petrology.

The classification and distribution of rocks, and the composition, structure, texture, origin and mode of occurrence of all the more important types and their metamorphic and altered forms.

Contact and Regional Metamorphism.

The macroscopic and microscopic examination of rocks including the determination of the simpler optical characters of the chief rock forming minerals in parallel polarized and convergent light. Preparation of diagrams or sketches to represent features observed in rock sections under the microscope. Construction and use of a simple petrological microscope.

(iv) Structural and Field Geology.

The more important lithological and structural features of rocks, their origin or formation; structure of mineral veins. Diagrammatic sketches of the above.

Construction and Interpretation of geological maps and sections. Tracing of outcrops. Simple problems in Structural Geology.

(v) Stratigraphy and Palæontology.

The chief petrological and palæontological characters of the main geological divisions and their Indian representatives and the probable physical conditions under which they were formed. Geology of India.

Fossils, their nature and preservation. The main groups of vegetable and animal life and their distribution in time.

The characters, classification and distribution of the more important types of fossils—especially Indian; identification and sketching of fossils; causes for the imperfection of the geological record; the general succession of life as revealed thereby and the general evidence furnished in support of evolution; principles of correlation; Homotaxis.

(vi) Practical Examination.

The knowledge of the candidate in accordance with the syllabus will be tested also by practical examination. *Viva voce* questions may be asked, acquaintance with field work is necessary.

Books for study.—

Judd	... Students' Lyell.
Williams	... Crystallography.
F. Rutley	... Mineralogy.
A. Geikie	... Class-book of Geology.
Hatch and Wells	... Petrology (Igneous Rocks).
Hatch & Rastall	... Petrology (Sedimentary Rocks).
Harker	... Petrology.
Wadia	... Geology of India.
Woods	... Invertebrate Palaeontology.

Reference Books.—

Chamberlin & Salisbury	... College Geology.
Lake & Rastall	... Text-book of Geology.

(ii-g) Physiology—Main.

Will be prescribed later.

GROUP (ii).

Mathematics—Subsidiary.

The course shall comprise the study of the following subjects:—

Algebra and Trigonometry, Analytical Geometry and Calculus.

The examination shall consist of two papers of three hours' duration each.

The problems set for the subsidiary papers will in general be of a lower standard than for the main papers in the same subjects and will as far as possible relate to scientific topics.

Algebra and Trigonometry. Simple practical applications of the binomial, exponential, and logarithmic series; compound interest law.

Complex numbers; their geometrical representation; de Moivre's theorem and its immediate applications. Use of the expansion of the sine and cosine in power series.

Analytical Geometry as for Main excluding the general equation of the second degree and polar equations.

Calculus—Same as for Main.

Physics—Subsidiary.

Properties of Matter :—

Compressibility of gases at high and low pressure. Diffusion of liquids. Osmosis. Experimental study of viscosity. Pressure of a gas, and its explanation on the kinetic theory. Avogadro's hypothesis; Vander Waal's Equation.

Hydrostatics :—

Pumps, pressure gauges and Hydrostatic machines. Capillary phenomena and their explanation by surface tension.

Heat:—

Expansion, calorimetry and thermometry. Vapour pressure; critical temperature and pressure. Conduction of heat and determination of conductivity. Radiation and absorption ; laws of cooling. Theory of exchanges ; methods of measuring radiation. Mechanical equivalent of heat ; Carnot's Theorem, absolute scale of temperature.

Light :—

Velocity of light; explanation of reflection and refraction of plane waves on plane surfaces by the wave theory. Colours of thin films. Newton's rings. Plane transmission gratings and determination of wave length at normal incidence. Spectrum analysis. Plane Polarised light ; the Saccharimeter.

Electricity :—

Wheatstone's Bridge : specific resistance; resistance thermometers. Conductivity of electrolytes ; ionization, and migration phenomena. Accumulators and standard cells. The Potentiometer system of measurement. Thermo-electric phenomena. Electro-magnetic induction. Induction coils. Experimental wireless and X-rays.

TEXT-BOOKS.

The same as for Physics Main 1935, omitting portions in the books not included in the syllabus.

Chemistry—Subsidiary.

General Chemistry.—The atomic Theory. Valency. Methods of determining equivalents, atomic weights and molecular weights. Properties of solutions. Osmotic pressure. The Law of Mass Action.

Inorganic Chemistry.—A thorough knowledge of the chemistry of the elements included in the Intermediate syllabus, with the addition of Strontium, Cadmium, Cobalt and Nickel, studied from the point of view of the Periodic classification.

Organic Chemistry.—The syllabus for this course is the same as that for the B.Sc. Course (Subsidiary) as given on page 542.

Practical Chemistry.—Qualitative analysis of inorganic substances containing not more than one acid and one base. Simple volumetric analysis with standard solutions of acids, alkalis, potassium permanganate, iodine and sodium thiosulphate.

Books for Study—

Barret, W. H.: Elementary Physical Chemistry (Ed. Arnold).

Lowry & Austin: Organic Chemistry (Macmillan).

Smith: Introduction to Inorganic Chemistry (Bell).

Senter: Outlines of Physical Chemistry (Methuen).

Thorpe: History of Chemistry, 2 Volumes (Watts).

Caven: Quantitative Chemical Analysis Part I, (Blackie).

Thorpe: Inorganic Chemical Preparations (Ginn).

A short system of Qualitative Analysis by R. M. Caven.

Text-book of Physical Chemistry by J. B. Firth (University Tutorial Press).

Rane and Varma's Elements of Organic Chemistry, published by Nand Kishore & Bros., Benares—Price Rs. 2-8-0.

Reference—

Partington: Text-book of Inorganic Chemistry (Macmillan).

Lowry: Historical Introduction to Chemistry (Macmillan).

Holmyard: Introduction to Organic Chemistry (Arnold, 4*s.* 6*d.*).

1936.

Barret's "Physical Chemistry" be removed from the list of books for study.

Botany—Subsidiary.

(1) The structure and life-history of the following:—

Bacteria, *Oscillaria*, *Nostoc*, *Chlamydomonas*, *Pandorina*, *Eudorina*, *Pleodorina*, *Volvox*, *Ulothrix*, *Oedogonium*, *Spirogyra*, *Ectocarpus*, *Polysiphonia*, *Chara or Nitella*, *Rhizopus*, *Puccinia*, *Agaricus*, *Lichens*, *Riccia*, any one Moss, *Selaginella*, any one Polystelic Fern, *Cycas*, *Pine*.

(2) External Morphology of Flowering Plants.

(3) The general principles of classification and the characteristics of the following families:—

Anonaceae, *Nymphœaceae*, *Leguminosae*, *Malvaceae*, *Rutaceae*, *Myrtaceae*, *Cucurbitaceae*, *Rubiaceae*, *Compositae*, *Apocynaceae*, *Asclepiadaceae*, *Convolvulaceae*, *Solanaceae*, *Acanthaceae*, *Labiatae*, *Amarantaceae*, *Euphorbiaceae*, *Urticaceae*, *Liliaceae*, *Amaryllidaceae*, *Scitamineae*, *Orchidaceae*, *Palmae*, *Cyperaceae*, *Gramineae*.

(4) Plant Physiology:—

Chemical composition of the plant, soil and its nature. Photosynthesis, Transpiration, Respiration, Metabolism, Heterotrophic Plants, Growth, Movements, Irritability, Reproduction (Sexual and Asexual), Cross and Self Fertilization, Variation, Heredity and Mendelism. Theories of Evolution and the Origin of Species.

(5) Histology:—

Cell-structure and cell-division, plastids, cell-sap, other cell-contents; the origin, nature and development of plant-tissues. Primary and secondary tissues and their distribution in the plant body.

Zoology—Subsidiary.

SUBSIDIARY.

Theory.

I. *Invertebrata.*—The leading features in the structure, the development, the affinities and the classification (not lower than orders) of the following groups:—

Protozoa, Coelenterata, Platyhelminthes (Trematoda, and Cestoda), Nemathelminthes (Nematoda), Annelida (Chaetopoda and Hirudinea), Arthropoda, Mollusca (Pelecypoda, Gastropoda, and Cephalopoda) and Echinodermata.

2. *Chordata.*—The structure and the development of the Vertebrate systems to be treated from an evolutionary standpoint as illustrated by representative types.

3. An elementary knowledge of the thoeries of organic evolution.

Practical.

Candidates will be required to identify and describe specimens and preparations illustrating points of zoological interest in connection with any of the groups mentioned above. They will also be required to make dissections and simple microscopic preparations of any of the following types:—

Earthworm; Nereis (external characters); Prawn (external characters); Cockroach; fresh water mussel (nerves excepted); Pila (external characters); Sepia (external characters); Shark; Frog; Pigeon; Rabbit or Hare; (Dissection of the nerves in the Vertebrate types will not be required except in the case of the frog).

Books for Study--

Theory—

1. Shipley and MacBride: Text-book of Zoology (Cambridge University Press).
2. Borradaile: Manual of Zoology (Oxford University Press).
3. Kerr: Organic Evolution (Macmillan).
4. College Zoology: Hegner—Macmillan & Co., New York.

Practical—

1. Marshall: The Frog (Macmillan).
2. Marshall and Hurst: Practical Zoology (Smith Elder & Co.).

Reference—

1. Lull: Organic Evolution (Macmillan).
2. Metcalfe: Evolution.
3. Parker and Haswell: Text-book of Zoology (Macmillan).
4. Wilder: History of the Human Body.

Geology—Subsidiary.

Mineralogy.—The more important rock-forming minerals, their composition and general physical characters and their characteristic alteration products. An elementary knowledge of crystallography is expected.

Petrology.—Origin, classification and the distinctive characters of the leading types of sedimentary, igneous and metamorphic rocks.

Physical Geology.—The general nature and relation of the main agents of geological changes, epigene and hypogene; and their action.

Structural Geology.—Elementary knowledge of rock-structures, stratification, dip, strike, outcrop, outlier, inlier, folds; faults, cleavage, joints, unconformity and overlap; surface-features as influenced by the nature and disposition of the rocks; water supply.

Statigraphical Geology:—Rocks as embodying the history of the earth; fossils, their mode of formation and value in Geology and also in the biological sciences; the order of superposition; the geological record; its general conclusions relating to former changes in the physical features of the earth and also in the character of the organic forms; the order of succession of plant and animal life on the surface of the globe; the theory of evolution; an elementary knowledge of Indian Geology is required.

The practical examination may include the interpretation of maps and tectonic models and drawing of sections across them, of representations of scenery and also the identification and description of the more important types of minerals, rocks and fossils including models.

Candidates will be expected to show some acquaintance with field work.

Books for study—

C. Lapworth	...	Intermediate Text-book of Geology.
A. Geikie	...	Class-book of Geology.
Pirrson	...	Introduction to Geology.
Do.	...	Rocks and Rock Minerals.

Physiology—Subsidiary.

Histology of the tissues. Foods: digestion. Absorption. Respiration. Blood and Lymph. Circulation. Excretion. Metabolism. Internal secretion. Neuro-muscular system. The special sense organs. Reproduction.

Practical.—Candidates will be expected to do simple experiments on nerve-muscle physiology, on the heart-beat, on the composition of foods, of urine and of the blood. They may also be required to identify microscopical preparations of tissues (not of organs).

Books for Study for B.A. & B.Sc. Deg: Examinations.—

1. Bainbridge and Menzies : Essentials of Physiology (Longmans).
2. Bodansky : Introduction to Physiological Chemistry (Wiley).
3. Lewis and Bremer : Text book of Histology. (Blakiston).
4. Parsons : Fundamentals of Bio-chemistry. (Heffer).

Books for Reference—

1. Starling : Principles of Human Physiology (Churchill).
2. Macleod : Physiology and Bio-chemistry in Modern Medicine (Mosby).
3. Evans : Recent Advances in Physiology (Heffer).
4. Pryde : Recent Advances in Bio-chemistry. (Heffer).
5. Mathews : Physiological Chemistry. (Wood).
6. Aurep and Harris : Practical Physiology (Churchill).
7. Cannon ; A laboratory course in Physiology (Harvard Univy.)
8. Folin ; Laboratory Manual of Biological Chemistry (Appleton).
9. Schafer ; Experimental Physiology. (Longmans).

Mechanical Engineering.

As a Subsidiary subject only to Physics.

Graphics, Machine Drawing and Strength of Materials:—More advanced than for the Intermediate with the following additions:—

Geometrical Drawing—Simple interpenetration of solids. Elementary notions of perspective. Strength of Materials—Gordon's, Rankine's and Euler's formulæ.

Heat Engines:—More advanced than for the Intermediate.

Steam-tables.—Expansive working of steam. Indicated horse power. The Indicator and Indicator diagrams. Mechanical efficiency. Entropy.

Steam Engines:—Modern types of land, marine and locomotive engines: unflow engines; steam turbines, their description and working.

Internal Combustion Engines:—Modern engines. Modern engine cycles and their applications. Types of engines with reference to available fuels, such as petrol, kerosine, crude oil, gas, (suction and pressure).

Fuels:—Characteristic properties of common fuels-coal, charcoal, wood and oils. Calorific values.

Boilers:—Description and working of common types of boilers and their accessories.

Materials:—Same as for Intermediate but more detailed.

Connections:—Same as for the Intermediate but more advanced. Efficiency of simple types of riveted joints. Treatment of 3 or 4 overlapping plates. Connection of plates with angle and T irons. Flange joints. Different forms of screw threads. Cotter fastenings.

Shafts and bearings:—Shafts and shaft couplings. Clutches, Universal joints. Bearings for horizontal and vertical shafts, Ball and roller bearings. Methods of lubrication.

Belt and toothed gearing:—Same as for Intermediate but more advanced. Worm and helical gearing.

Engine Details:—Usual forms of cranks and levers. Methods of fixing crank pins. Forms of eccentric. Ordinary arrangements of connecting rods, Cross heads and coupling rods. Forms of cylinders, flanges and covers. Simple forms of pistons. Attachment of piston rods. Simple forms of stuffing box and gland. Construction of simple slide valve.

Pumps:—Types of pumps—reciprocative and rotary. Relative advantages and applications.

PRACTICAL WORK.

The following indicates broadly the scope of the practical work.

1. More advanced exercises in wood work, forging, soldering, casting, fitting and wood and metal turning, specially with reference to scientific instruments.

2. Finding calorific values of solid, liquid and gaseous fuels.

3. Viscocity of lubricating oils by Viscometer.

4. Determination of flash points of common fuel oils.

5. Testing of engines.

   (a) Taking indicator diagrams and determination of I. H. P. and B. H. P. and calculation of mechanical efficiency.

   (b) Testing for fuel consumption per B. H. P. hour.

   (c) Finding heat efficiency.

Note:—At least two hours a week should be devoted to practical work.

Books for Study—

Applied Mechanics—An Introduction to Applied Mechanics. E. S. Andrews—Cambridge Technical Series.

Machine Drawing & Design—Spooner.

Machine Design—Berard & Waters.

Steam and other Engines—Duncan.

Steam and Steam Engines—Jamieson.

Electrical Engineering.

As a Subsidiary subject only to Physics.

1. *General principles*:—More advanced course than for the Intermediate with the following additions:—

Magnetisation curves of iron and steel. Calculation of Ampere turns in magnetic circuits of D. C. machines. Eddy currents. Hysteresis. Armature reaction. Capacity.

2. *Measurements*:—In addition to that for the Intermediate frequency meters, power factor meters, and 3 phase wattmeters.

3. *Generators*:—Continuous current generators, alternators and synchronising alternators, transformers; their characteristics and methods of testing efficiency and voltage regulation. Transformers and their uses and connections. Parallelling of generators and transformers.

4. *Motors*—Continuous current motors, synchronous and induction motors, their characteristics and uses; methods of starting. Principle of working of a rotary converter,

5. *Batteries*:—Secondary batteries and their practical applications.

6. *Power Distribution*:—Methods of distributing electric power in streets; overhead and underground mains; D. C. three wire system. A. C. three phase four wire system. Calculation of conductor sizes. Properties of insulation materials.

7. *Illumination*:—Candle power; polar curves. Use of shades and reflectors.

8. Design and management of a small house lighting power plant with storage battery.

The magneto. Any one type of an automobile lighting system.

LABORATORY COURSE.

The following indicates broadly the scope of the practical work.

Same tests as for the Intermediate with insistance on greater accuracy of results, with the following additions.

Direct Current:—

1. Calibration of ammeter against a standard instrument.

2. Calibration of a voltmeter against a standard cell with a dial type of potentiometer.

3. Measurement of hysteresis by Ewing's hysteresis tester.

4. Shunt motor. Approximate predetermination of efficiency of shunt motor at varying load currents by measurement of power taken at no load.

5. Series Motor (a) speed characteristic, (b) efficiency by a brake test.

6. Compound wound motor, (a) reversal of compound wound motors additive and differentially compounded, (b) speed characteristic, additive compound, (c) speed characteristic differentially compounded, (d) efficiency of a compound wound motor by a brake test.

7. Generators (a) separation of iron, friction and copper losses of a generator at full load (b) calculation of efficiency from losses, (c) approximate efficiency of a shunt generator by measurement of power taken when run as a motor on no load. (d) excitation characteristic of generator, (e) parallelling of 2 shunt generators and verification of sharing of load according to their separate characteristics.

8. Compound wound generators:—(a) load characteristic separately excited additive compound.

(b) load characteristic, self excited additive compound.

9. Operation of a simple electric lighting plant with charging dynamo and regulating battery.

Alternating Current:—

10. Comparison of capacity against a standard.

11. Measurement of capacity from voltage applied, frequency and resulting current.

12. Measurement of impedence (involving also capacity).

13. Efficiency of a 3 phase alternator by measurement of iron, friction and copper losses.

14. Alternators—

(a) Load characteristic of a 3 phase alternator with non-inductive load.

(b) Effect of unbalanced load.

(c) Parallelling of single and 3 phase alternators; synchronising by lamps; distribution of load between alternators.

15. Synchronous motors—

(a) Efficiency by brake test.

(b) Effect on power factor for a particular load when over and under excited.

16. Transformers:—

(a) Efficiency of single phase transformers from losses.

(b) Star and delta connections of transformers. Parallelling of single phase transformers.

(c) Efficiency and voltage regulation of transformers, connected 3 phase by actual loading and by watt-meter measurements on the primary and the secondary sides.

17. Measurement of power:—

(a) By two watt-meter method.

(b) Measurement of power factor in a 3 phase circuit.

18. Induction motor. 3 phase squirrel cage and slip ring types.

(a) Speed variation on load. Approximate slip.

(b) Efficiency from brake test.

(c) Power factor improvement on load.

(d) Effect on power factor with resistance in motor circuit.

19. Calibration of a 3 phase watt hour meter against wattmeters and standard clock.

20. Illumination—Polar curves of incandescent lamps.

21. The running of a simple electric generating plant, comprising of an engine, dynamo and storage battery.

Note:—At least two hours a week should be devoted to the laboratory course.

Books for Study—

Elementary Electrical Engineering.—Clayton and Shelley. Longmans, Green & Co., London.

Electrical Engineering—Gray—Mc Graw Hill Publishing Co., London.

GROUP (III)—PHILOSOPHY.

1935.

Text-books recommended—

I. *Logic and Theory of Knowledge—*

1. *Indian*—Tarkasaṅgraha.

2. *European*—First 4 lectures of Bosanquet's Essentials of Logic along with Part III of Creighton's Logic.

Note.—As far as possible, Tarkasaṅgraha should be studied in relation to the European System of Logic.

II. *Psychology*—Pillsbury's Fundamentals of Psychology.

III. *Ethics—*

Muirhead's Elements of Ethics.

IV. ***Philosophical Work prescribed*—**

(*a*) Philosophical work prescribed in European Philosophy. } Berkeley's Principles of Human knowledge.

(*b*) Philosophical work prescribed in Indian Philosophy. } Sāṁkhya Kārikā of Isvara Krishna.

1936.

(i) *Psychology*.—

McDougall: *The Energies of Man* (Methuen).

(ii) *Ethics*.—

The same as for 1935, i.e., Muirhead's *Elements of Ethics*.

(iii) *Logic and Theory of Knowledge*.—

(a) *European Logic*.—The same as for 1935, i.e.—

First Four Lectures of Bosanquet's *Essentials of Logic* along with Part III of Creighton's Logic.

(b) *Indian Logic*.—Tarkasaṅgraha of Annambhatta, Sections 28 to 42.

(iv) *Philosophical Work prescribed*.—

(a) *European Philosophy*.—Kant: Metaphysics of Ethics.

(b) *Indian Philosophy*.—Isvara Krishna: Sāṁkhya Kārikā.

GROUP (IV-A)—HISTORY AND ECONOMICS.

SYLLABUS FOR IV-A AND IV-B ECONOMICS.

N.B.—Students are expected to study economic principles in their application to Indian facts and problems.

Introductory:—Nature and scope of Economics. Economics as a social science. Economic laws. Methods of Economic Science. Definition of the principal economic terms.

Consumption:—Wants of man, their nature and classification, Diminishing utility and elasticity of wants. Consumer's Surplus. Standard of life. Family budgets.

Economic Organisation:—The general structure and evolution of modern industry and trade. Bases of modern economic life: Private property, freedom of contract; Competition and monopoly.

Production:—Nature of production. Agents of production. Their changing importance. Land and other natural agents. Labour and causes affecting its efficiency. The quantity and quality of population. Division of Labour and the use of machinery. Capital—its nature and function. Enterprise. Risk-bearing, speculation and insurance.

Laws of production—Increasing, diminishing and constant cost. Law of substitution. Large scale production. Localisation of industry. Types of productive organisation: partnership, joint stock companies, co-operative organisation, state enterprise. Industrial combinations. Rationalisation.

Value and Exchange:—Evolution of the market. Value, its meaning. Theories of value. Analysis of Supply and Demand. Cost of production. Joint supply and joint demand. Equilibrium of Demand and Supply. Value during long and short periods. Value and Price. Prices under free competition. Theory of monopoly prices. Speculation and its effects on prices.

Mechanism of Exchange:—Money. Evolution and Functions of Money. Qualities of good money. The Quantity Theory of Money. Systems of Money. The Gold Standard and its variants. Bimetallism. Gresham's Law. History of Indian Currency. Credit, its meaning and forms. Instruments of credit. Credit and prices. Paper money. Convertibility and inconvertibility. Indian paper currency. Banking. Functions of banks. Types of banks. Central Banks. Variations in the value of money and their effects.

International Trade:—The basis of international exchange. Free Trade and Protection. Tariffs and bounties. Balance of trade. Foreign Exchanges. The Rupee exchange.

Distribution:—General theory of distribution. The nature and theory of rent, interest, profits and wages; and the causes of their variation. The National Income and its distribution. Problems of distribution; inequality of incomes, socialism, trade unionism.

Public Finance:—The economic functions of the State. Public expenditure and sources of public revenue. General principles of taxation; direct and indirect taxes. Public debts.

Books recommended.—

1. Marshall:—Economics of Industry.
2. Clay:—Economics for the General Reader.
3. Gide (edited by Row):—Principles of Political Economy.
4. Banerjea:—Indian Economics (latest edition).

SYLLABUS IN POLITICAL SCIENCE.

The State.—Its characteristics and relation to kindred conceptions, *e.g.*, People, Nation, Society, Government, Constitution. Its value.

The origin of the State.—The family, patriarchal or matriarchal primitive headship; slavery or adoption, conquest or amalgamation.

The Ancient City State.—Political evolution in Sparta, Athens, Rome—Monarchy, Aristocracy, Oligarchy, Tyranny, Democracy. The Federated City State. The Imperial City State.

The Country State.—Break up of the Roman Empire—Political forces of the Middle Ages—Feudalism, the Holy Roman Empire. the Papacy, premature Constitutionalism, the reappearance of the City State.

The modern period, Political influences of the Renaissance, Reformation, Maritime Discoveries. National monarchy in England and France—resemblance and contrast in sixteenth, seventeenth and eighteenth centuries.

The Social contract.

Constitutional Monarchy. Republican Government, *e.g.*, France and U.S.A.

The Federated Country State. The Imperial Country State.

Analysis of the Modern State.—The Legislative, Executive, and Judicial powers. The principle of separation of powers (*a*) as between federal and part state organs, e.g., U.S.A., (*b*) as between the Legislature, Executive and Judiciary, e.g., U.S.A. Great Britain, France.

The Legislature.—Two Chambers—their composition and powers. The representative and the telephone theories. Direct legislation by referendum and initiative. Sovereign and non-sovereign legislature. Rigid and flexible Constitutions.

The Executive.—Parliamentary and non-parliamentary Executives. The Cabinet.

The Judiciary.—Its relation to the Executive and the Legislature. The 'rule of law.'

Party-Government.—Its development in Great Britain and the U.S.A. Its merits and defects.

The Sphere of the State.—The Greek and Roman view. Teutonic individualism.

Mercantile policy. Laissez Faire. Modern Individualism and Socialism.

The following books are recommended for study, but are not prescribed.:—

Fowler: *The City State of the Greeks and Romans.*

Sidgwick: *The Development of European Polity.*

Leacock: *Elements of Political Science.*

Low: *The Governance of England.*

GROUP (IV-B)—ECONOMICS AND HISTORY.

(1) Syllabus in Economics—General.

Same Syllabus as prescribed for Group (iv-A).

(2) Economics (special paper.)

Part I—Rural Economics.

Scope—A study of the organization and financing of agriculture, and in general, all activities connected with rural uplift, with special reference to India. To include, in particular, co-operative systems and methods, marketing, land tenures and all kinds of State activity for agricultural improvement.

Books recommended—

1. Carver ... Principles of Rural Economics.
2. Keatinge ... Agricultural Progress in Western India.
3. Matthai ... Agricultural Co-operation.
4. Abridged Report of the Royal Commission on Agriculture, 1928.

Part II—Public Finance.

Scope.—The raising and spending of revenues, its theory and practice; including also public debts, financial administration and the economic functions of Government. The whole to be illustrated from the recent financial history of India and England.

Books recommended—

1. Dalton ... ... Public Finance.
2. Armitage-Smith ... The Nature and Principles of Taxation.
3. Report of the Indian Taxation Enquiry Committee.

(3) MODERN ECONOMIC HISTORY OF ENGLAND AND INDIA.

A general survey of the agricultural, manufacturing and commercial developments in England and India from 1600, special attention being paid to the period after the Industrial Revolution in England and that after 1848 in India. The following lines of development should specially be kept in view:—The economic policy of the State, changes in agricultural and industrial methods and organization, transport methods and trade developments, changes in the structure and control of business, tariff policies, growth of banks and financial systems, labour movements and social changes.

Books recommended—

1. Ashley ... ... Economic Organization of England.
2. Worts ... ... Modern Industrial History.
3. Gadgil ... ... The Industrial Evolution of India.
4. Knowles ... ... Industrial and Commercial Revolutions in the 19th century.
5. Slater ... ... The Making of Modern England.
6. Imperial Gazetteer, Vol. III.

(4) POLITICAL SCIENCE.

The same as for Group (IV-a).

GROUP (V)—LANGUAGES OTHER THAN ENGLISH.

(1) SANSKRIT.

(a) Main.

Sanskrit Language and Literature. The course shall be:—

(*a*) Selections from the Early Period, including Vedic Mantras, Brāhmaṇas, Āraṇyakas and Upanishads and the Sūtra literature.

(*b*) Selections in prose and verse from the Later Period, including the Dharmaśāstras, and the Itihāsa, Kāvya and Nataka literature.

A knowledge of Alamkara-Śāstra will be required sufficient for the correct understanding of native commentators.

(*c*) Sanskrit Grammar treated historically and comparatively in accordance with a syllabus.

(*d*) Translation from and into Sanskrit.

(*e*) General History of Sanskrit Literature.

(*f*) Early Indian History.

In the examination there shall be two papers, each of three hours' duration in subject (*b*) and one paper of three hours' duration in each of the other subjects, except Translation which will form part of the papers set on (*a*) and (*b*) above.

(*b*) *Subsidiary.*

The course shall consist of the study of one drama of the classical period and portions of one Kavya. In the examination there shall be one paper of three hours' duration which shall include pieces for translation from Sanskrit into the main language.

SYLLABUS FOR SANSKRIT GRAMMAR FOR GROUP (v)—LANGUAGES OTHER THAN ENGLISH.

The following syllabus for Sanskrit Grammar treated historically and comparatively has been approved.

Syllabus for Indo-European Philology with special reference to Sanskrit.

N.B.—Knowledge, accurate, so far as it goes, but neither extensive nor minutely detailed, is expected under each head.

P.I.E. = Primitive Indo-European; Ind.-Ir = Indo-Iranian; Skt.=Sanskrit; Gk.=Greek; Lat.=Latin; Teut.=Teutonic.

A. GENERAL.

I. *Elementary Phonetics.*—(a) The organs of speech—production and classification of speech-sounds. Quantity; accent.—sentence-, word-, and syllable accent. Glides.

(*b*) Phonetic description of all speech-sounds treated in the course. Phonetic transcription.

(c) Sound-change; isolative, conditional; defective imitation and the result of analogy. Meaning of the term 'Law' in Linguistic Science. Dialectal separation. Growth of 'literary languages'. Families of languages. Cognate words and loan words.

II. *The Indo-European Family of Languages.*—The original speech and its earliest dialectal divisions. Branches and sub-branches of the Indo-European Family. Some distinguishing characteristics of the Indo-Iranian, Hellenic, Italic, and Teutonic branches.

III. *Indo-Iranian.*—The Indian Sub-Branch. Dialects of Vedic times. Epic dialects. Classical Sanskrit. Middle Indian Speeches. New Indian Speeches.

B. PHONOLOGY.

IV. *The P.I.E. vowel system.*—The oldest conditions: primary vowels: changes resultant on accent: secondary vowels and syllabic liquids and nasals. Vowel-gradation, quantitative and qualitative; its relation to accent and its bearing on morphology.

The later P.I.E. vowel-system prior to the period of languages separation. General treatment of the P.I.E. vowel-system in the oldest Ind-Ir., Gk., Lat., and Teut.

V. The vowel-system of Skt. in its relation to P.I.E. and to the vowel-systems mentioned in IV. Vowel-gradation in Skt.

VI. *The P.I.E. Consonant system.* Classification of the P.I.E. consonants. Earliest dialectal variations; the 'centum' and 'satam' divisions. Treatment of the P.I.E. consonant generally in Ind.-Ir., Gk., Lat. and Teut.

VII. Representation of the P.I.E. consonant-system in Skt. liquids and nasals. Plosive consonants. Cerebral consonants (Fortunatov's Law). Palatal and velar consonants. (The law of palatalization.) The law of aspirates (Grassmann's Law), Spirants, Semi-vowels.

VIII. Sandhi, external and internal. Glides in Skt. Anaptyxis (Svarabhakti). Haplology.

C. ACCIDENCE.

IX. Word-formation. Base, stem and suffix. Prefix-Infix.

X. Skt. compounds, nominal and verbal.

XI. Skt. suffixes, primary (kṛt) and secondary (taddhita).

XII. *Nominal Declension.*—P.I.E. conditions. Number. Grammatical Gender. Case and case-endings. P.I.E. case-endings. Syncretism. Contamination. Classification of noun declensions according to suffix. Vowel and consonant-stems.

XIII. *The noun declensions in Skt.* treated historically and comparatively with reference to P.I.E. Gk., Lat. and Teut. Philological explanation of all case-endings. Comparison of adjectives and formation of adverbs treated philologically.

XIV. *Numerals.*—Philological treatment of the Skt. numerals.

XV. *Pronouns and pronominal adjectives.*—The Skt. pronouns and pronominal adjectives treated philologically with reference to P.I.E., Gk., Lat. and Teut.

XVI. *The Verb.*—The P.I.E. verbal-system generally treated; voice, mood, tense, augment, reduplication, personal endings. Thematic and Athematic stems. Types of verbal action.

XVII. The Skt. verb in its relation to the P. I. E., verbal system. Present, perfect, aorist and future systems in Skt. Transfer from the athematic to the thematic class. Periphrastic formations. Analogy in the Skt. verbal-system. Derivative verbs—causative, denominative, desiderative, intensive.

XVIII. Voices, moods and tenses in Skt. Infinitive verbal formations.

(2) TAMIL, TELUGU, KANARESE OR MALAYALAM.

The course shall be:—

(*a*) The study of selections representative of the several periods of the literature of the selected language including inscriptions.

(*b*) The history of the Language and Literature with special reference to the selected books.

(*c*) The elements of the Grammar of the language including those of the Prosody and Rhetoric of the language.

(*d*) The elements of the Comparative Grammar of the Dravidian Languages.

(*e*) Composition generally on literary and historical subjects, relating to the language chosen;

(*f*) Early South Indian History (or Language).

(*a*) SYLLABUS FOR THE COMPARATIVE GRAMMAR OF THE DRAVIDIAN LANGUAGES FOR GROUP (v).

I. *Introductory.*—The origin of language. Classification of languages. Dialectal separation and growth of literary standard languages. Dialects and Cognate languages.

II. *Introductory* (continued).—The Dravidian group of languages and their chief characteristics. Reasons for choosing the word 'Dravidian' as name of this group. Enumeration of Dravidian languages. Meaning of the names 'Tamil,' 'Telugu,' 'Kanarese' and 'Malayalam.' Where they are spoken.

III. *Introductory* (continued).—Relation between Dravidian languages and Sanskrit. Dravidian element in North Indian vernaculars. Affiliation of Dravidian languages to the Scythian Group. Tamil, the most primitive of Dravidian languages.

IV. *Phonetics.*—Production and classification of speech sounds. Sound changes and their causes. Sounds and symbols. Conditions of a good orthography.

V. *Dravidian alphabets.*—Their history. Differences among existing alphabets. Their adequacy and inadequacy. Comparison of Dravidian sounds with Sanskrit and English sounds.

VI. *Dravidian Phonology.*—The primitive Dravidian parent language—

(1) Vowel-system.—Changes. Accent. Harmonic sequence of vowels.

(2) System of consonants.—Origin of cerebrals. Dialectic interchange of consonants. Euphonic permutation of consonants. Sandhi. Nasalization. Anusvara and Ardhanusvara. Prevention of hiatus.

(3) Dravidian syllabation.

VII. *Roots.*—Dravidian roots arranged into two classes, verbal roots. Nouns. Lengthening of roots. Formative addition to roots.

VIII. *Accidence: (1) The Noun—*

(*a*) Gender—Dravidian nouns divided into two classes denoting rational beings and irrational things except in Telugu in which they are classified as Mahat and Amahat, the latter including words denoting women. Comparison between Dravidian languages on the one hand and Sanskrit and English on the other.

(*b*) Number.—Singular and plural. No dual. Singular. Masculine, feminine and neuter. Plural-principles of pluralization.

(*c*) Case.—Principles of case-formation. Dravidian cases.

(2) *The Adjectives.*—Their agreement with substantives like those in Sanskrit. Formation of Dravidian adjectives from Sanskrit derivatives. Formation of adjectives from substantives, relative participles of verbs and past verbal participles. Comparison or adjectives.

(3) *The Numerals.*—Different views about their origin. The cardinals and ordinals. The neuter noun of number and the numerical adjective.

(4) *The Pronouns.*—Light thrown by pronouns on relationship of languages. Persistence of personal pronouns. Pronouns of the first person singular. Comparison of dialects. Analogies. Pronouns of the second person singular. Comparison of dialects. The reflexive pronoun. Pluralization of the personal and reflexive pronoun. Demonstrative and interrogative pronouns. Demonstrative cases. Interrogative cases. Demonstrative and interrogative adjectives. Demonstrative and interrogative adverbs. Honorific demonstrative pronouns.

(5) *The Verbs.*—Structure of the Dravidian verb. Roots used either as verbs or nouns. Formative particles often added to roots. Classification of verbs into transitive and intransitive. Ways in which intransitive verbs change into transitive. Sanskrit analogies.

(*a*) Causal verb—Causals formed from transitives. Origin of Dravidian causal particle.

(b) Frequentative verbs.

(*c*) Conjugational system.—Formation of the tenses. Verbal participles. Their signification and force. The present tense and its formation. The preterite tense and its formation. The future tense. The future formation in Dravidian languages. The relative participle.

(*d*) Formation of Moods.—Methods of forming the conditional, the imperative and the infinitive; origin of the infinitive suffix.

(*e*) The Voice—Active and passive—The negative voice. Combination of negative particles with verbal themes. The Dravidian negative particle.

(*f*) Formation of verbal nouns, derivative nouns and abstract nouns.

(6) *Adverbs.*

IX. *Vocabulary.*—1. Borrowing and its causes. Social, commercial, political and religious. Borrowings from Sanskrit, borrowings from other languages.

2. *Structure and form.*—The essentials for the individuality of a language. Vocabulary cannot change the character of a language. Hybrids. Gain and loss from mixed character of a language.

X. *Comparative Syntax.*—The syntax of the several languages compared. Differences and similarities. The extent of Sanskrit influence over the syntax of the several languages.

(*b*) SYLLABUS FOR THE HISTORY OF THE TAMIL LANGUAGE.

I. *General.*—The origin and meaning of the word "Tamil". The place of Tamil in the Dravidian family of languages, its high antiquity, the geographical area where it was spoken in

ancient times as referred to by old commentators, the twelve Sen-Tamil and the twelve Kodum-Tamil countries. Very early cultivation of Tamil as a literary language; the three Sangams how far historical; Agastyar; his contribution to Tamil. Tolkappiyam: its importance for the study of the language. The extent of Sanskrit influence on Tamil Grammar.

II. *The periods of Tamil language.*—(1) The old or Sangam Tamil, (2) the mediaeval Tamil and (3) the modern Tamil. Illustrative literature of each period. Grammars of the different periods: Tolkāppiyam, Virasōliyam and Nannūl. The difference between the language of the different periods in point of vocabulary and grammar.

III. *Language and Dialect.*—The standard or literary language and the spoken language, their relation and mutual influence. The difference between the two. Sen-Tamil. Kodum-Tamil. Iyal, Isai, Nātakam Tamils. Dialects: how formed. Different localities and different classes of people in the same locality have different dialects. Are dialects discernible in ancient literary works?

IV. *The Alphabet.*—(*a*) *The Script.*—its gradual development. Vatteluttu, the grantha-Tamil characters, their geographical distribution, origin and history. The relation of Vatteluttu and grantha-Tamil characters to Brahmi. The form of Tamil characters how far determinable from Tolkāppiyam and the other grammars and commentaries thereon. The dotted e and o. Gradual changes in script. Changes credited to Beschi. (*b*) *The sound* values. How far the alphabet is phonetic. Its pronunciation, the spoken sounds, and the written symbols.

V. *Phonology.*—Vowels and their relation to the primitive Dravidian vowel-system. Classification of vowels according to the place of production. Diphthongs. Accent and emphasis, accent determining change, *eduttal* (rising accent), *paduttal* (falling accent), *nalital* (level or vanishing accent). The influence of accent on word-change and in prosody: alapedai. Mutation of vowels. Vowel harmony. Vowel sandhi—glides.

VI. *Phonology* (continued).—Consonants and their relation to the primitive Dravidian consonants, classification of consonants according to the place of production. History of consonantal sounds, palatalization, dentalisation, voicing, unvoicing, consonant length. Assimilation. Consonantal alapedai. Dialectal interchange of consonants. Consonantal sandhi. Laws of Tamil syllabation, the initial, the medial, the final letters in a word, the difference between Tolkāppiyam and Nannūl on this point. The light thrown by the rules of syllabation on the nature of loan words.

VII. *Accidence.*—(1) *Nouns.*—Gender and number; how mutually expressive and interdependent. Are Dravidian nouns naturally neuter? Gender prefixes and suffixes, the epicene plural as distinguished from the Neuter plural, the neuter plural

suffixes, double plurals, gender and number treatment, how they differ in old and modern Tamil. (2) *Case*, the number of cases and Sanskrit influence, the formation of the oblique case, the inflexional base, the inflexional increments or augments, their varied uses, the suffixes of the various cases, their probable origin and history. The uses of the various cases. Old Tamil, modern Tamil, how they differ in the formation of cases.

VIII. *Accidence* (continued)—*The Pronouns.*—Their form in old and modern Tamil, the three persons and their plural forms, the oblique forms of the pronouns, the phonetic relationship between the oblique and the substantive forms of the pronouns. The reflexive pronouns, the demonstrative and the interrogative cases, old and modern forms. Honorific pronouns.

IX. *Accidence* (continued)—(1) *The Verbs.*—The structure of the verbs, the base, the tense infix and the pronominal suffix, classification of verbs into tan-vinai and pira-vinai. How far this classification is synonymous with 'transitive' and 'intransitive,' the causals, the modes of forming the causals and the transitives. The various causal suffixes, reduplication. Appellative verbs. (2) The passive voice, the history of *padu*, the different modes of expressing the passive significance and of negative particles in old and modern Tamil. (3) The imperative form of the verb, how the infinitive is formed, the various suffixes in old and modern Tamil. The subjunctive, how expressed in old and modern Tamil. (4) The Tenses;—the tense infixes (*idainilai*, the present, the preterite, and the future). Is there no reference to the present tense in the Tolkāppiyam. The difference between the old and modern Tamil as regards the tense formation. *Kirukinru*, *t*, *t*, *r*, and *in*; and p. and v. their history, phonetic relationship, etc., and the principles of their use. (5) The relative and the verbal participles, the suffixes forming them.

X. *Accidence* (continued)-*The Adjectives and the Adverbs* (*uriccol*).—The adjectival and the adverbial participles, their origin and history. *The numerals.* The cardinals and the ordinals and the multiplicatives, the numeral bases mainly adjectival in nature, formation of substantive numerals from the base, the principles of formation. The double forms such as ir and ir, mu and mu, etc., their uses and the laws governing them. The light thrown by the numerals on the antiquity of Tamil. *The particles* (idaiccol), their origin and significance. (Interjections) and conjunctive particles.

XI. *Vocabulary.*—The general character of the Tamil vocabulary at different periods, the so-called pure Tamil. Borrowing, its causes. Periods of borrowing, character, comparative extent of borrowing at each period. Doublets, Telugu and Kanarese element, causes of admixture, various periods of entry of Telugu and Kanarese words into Tamil. Loss of old words. Nature and extent.

XII. *Vocabulary* (continued).—Sanskrit words; Tatsamas: Samskritasamas and Prakritasamas. Laws of formation. Tadbhavas, Samskritabhavas and Prakritabhavas. Laws of formation. Period of extensive Prakrita borrowing. Other borrowings, Hindi, Portuguese, English, etc., Manipravala style. Hybrids, Tests for distinguishing loan words.

XIII. *Word-building in Tamil.*—(1) By composition, compound words like *kadu-vay*, etc. Several kinds of compounds or *tokai*:—*ummai* and *uvamai*, etc. (2) By derivation, the various suffixes used to form nouns, verbs, adjectives and adverbs, etc. (3) Root-creation, bank formation, double bases like *nal, nan,* etc. Old and modern Tamil compared as regards the capacity to form new words and also the method of forming the words.

XIV. *Semantics.*—Changes in the meaning and usage. Elevation, degradation, specialisation and generalisation of native and foreign words.

XV. *Syntax.*—Order of words in a sentence. The difference between Poetry and Prose as regards syntax. Deviations from the normal order of words in a sentence and their causes. Sanskritic constructions in Tamil.

(c) SYLLABUS FOR THE HISTORY OF THE TELUGU LANGUAGE.

I. *General.*—The origin and meaning of the word 'Telugu'. The place of Telugu in the Dravidian family of languages. Its antiquity and its geographical distribution. Period of its early cultivation as inferred from the inscriptions. The extent of Sanskrit influence over Telugu Grammar.

II. *Periods of Telugu Language.*—The pre-Nannayya period, the Nannayya period, and the post-Nannayya period. Illustrative literature of each period. Grammar of each period. Difference between languages of different periods in point of vocabulary and grammar.

III. *Language and Dialect.*—The standard of literary language and the spoken language. Their relation and mutual influence. Dialects. How formed? Different localities and different classes of people in the same locality have different dialects. Are dialects discernible in ancient literary works?

IV. *Telugu Alphabet*—

(*a*) *The Script.*—Its gradual development. The Telugu-Kanarese form and its relation to Brahmi, Vengi and Chalukya scripts.

(*b*) *The sound-values.*—How far the alphabet is phonetic. Its pronunciation. The spoken sounds and the written symbols.

V. *Phonology.*—Vowels and their relation to the primitive Dravidian vowel-system. Classification of vowels according to the place of production. Diphthongs. Accent and emphasis. Accent determining change. Mutation of vowels. Vowel harmony, vowel sandhi.

VI. *Phonology* (continued).—Consonants and their relation to the primitive Dravidian consonants. Classification of Telugu consonants according to the place of production. Consonantal diphthongs. Mutation of consonants. Assimilation of consonants and consonantal sandhi. Other changes in consonants. Palatalization, Dentalization, Voicing, Unvoicing. Compensatory length, etc. The theory of ardhanusvara and the cacuminal Dialectic interchange of consonants. Telugu syllabation.

VII. *Accidence.*—Nouns. Gender. Nouns denoting *mahat* and *amahat*. Number. No dual. Principles of pluralization. Different treatment of *tatsama* and *accika* words with regard to the formation of number and gender. Case and case-endings. Principles of case formation. Aupavibhaktikas.

VIII. Accidence (continued).—Adjectives. Classification of adjectives. Their agreement with substantives. Formation of adjectives from substantives. Comparison of adjectives.

IX. *Accidence* (continued).—Numerals. Ordinals and cardinals. Declension of numerals.

X. *Accidence* (continued).—Pronouns, Classification of pronouns. Declension of pronouns. History of the Telugu pronouns. Demonstrative and interrogative adjectives. Demonstrative and interrogative adverbs. Honorific demonstrative pronouns.

XI. *Accidence* (continued).—The verb. Structure of the verb. Causal verbs. Atmanepada verbs: Voice: Active and passive. Tenses, present, past and future. Moods, conditional, imperative, infinitive and negative. Formation of verbal participles, verbal nouns, derivative nouns, and abstract nouns.

XII. *Accidence* (continued).—Adverbs. No real adverbs in Telugu.

XIII. *Vocabulary.*—General character of the Telugu vocabulary. The native element. The so-called *acca*-Telugu. Borrowing and its causes. Formation of compounds. Coining doublets. Dravidian basic element. Tamil and Kanarese element. Causes of admixture. Various periods of entry of Tamil and Kanarese words into Telugu.

XIV. *Vocabulary* (continued).—*Tatsama* words. *Samskritasama* and *Prakritasama*. Laws of formation. Period of extensive Prakrit borrowing *Tadbhava* words. *Samskritabhava* and *Prakritabhava*. Laws of formation. Other borrowings. Hindustani, Marathi, Oriya, English, French; etc.

XV. *Word-Building.*—(1) By composition. (2) By derivation. The various suffixes used to form nouns, verbs, adjectives and adverbs, etc. (3) Root-creation.

XVI. *Semantics.*—Changes in meaning and usage. Elevation and degradation. Specialization and generalization of native and foreign words. Obsolete words.

XVII. *Syntax.*—Order of words in a sentence. The difference between Prose and Poetry as regards syntax. Deviations from the normal order of words in a sentence and their causes. Sanskritic constructions in Telugu.

(*d*) SYLLABUS FOR THE HISTORY OF THE KANARESE LANGUAGE.

I. *General.*—The origin and meaning of the word 'Kanarese.' The place of 'Kanarese' in the Dravidian family of languages. Its high antiquity and its geographical distribution. Period of its early cultivation as inferred from the inscriptions. The extent of influence of Tamil, Telugu, Malayalam and Marathi, etc., if any, and of Sanskrit over Kanarese grammar.

II. *The Periods of Kanarese Language*—

(1) The period of the written ancient dialect.

(2) The period of the mediæval dialect.

(3) The period of the modern dialect.

Illustrative literature of each period. Grammar of each period. Difference between the languages of different periods in point of vocabulary and grammar.

III. *Language and Dialect.*—The standard of literary language and the spoken language. Their relation and mutual influence. Dialects, how formed. Different localities and different dialects. Badaga, how an ancient Kanarese dialect. Are dialects discernible in ancient literary works?

IV. *Kanarese Alphabet*—

(a) *The Script*—The Kanarese alphabet a variety of the so-called Cave-character. Its gradual development. The Telugu-Kanarese form and its relation to Brahmi, Vengi and Chalukya scripts, and the script of the *sasanas* of Cochin.

(b) *The sound-values.*—Unlike the Tamil and Malayalam alphabet, the alphabet is perfectly phonetic. The spoken sounds and the written symbols.

V. *Phonology.*—Vowel system.—Vowels in Accagannada and those borrowed from Sanskrit. Vowels and their relation to primitive Dravidian vowel system. Classification of vowels according to the place of production. Diphthongs. History of the vowel sounds. Accent and emphasis. Accent determining

change. Mutation of vowels. Vowel harmony. Vowel-sandhi, glides.

VI. *Phonology* (continued)—Consonant system. Consonants in Accagannada and those borrowed from Sanskrit. Consonants and their relation to the primitive Dravidian consonants. Classification of consonants according to the place of production. Consonantal diphthongs. Mutation of consonants. Assimilation of consonants and consonantal sandhis. History of consonantal sounds, doubling of consonants, palatalization, dentalization, voicing, unvoicing, compensatory lengthening, nasalization, denasalization, etc. Dialectic change of consonants. Theory of Kula and Ksala L's and the history of *r* and *l*. Kanarese syllabation.

VII. *Accidence.*—Nouns. (1) Gender. Are Dravidian nouns naturally neuter? Nine genders according to the grammarian Kēsirāja, reducible however to three, masculine, feminine, and neuter. Gender prefixes and suffixes. Gender in metaphorical diction etc.

(*b*) Number. Words plural in form, but with a dual signification. Principles of pluralization. The epicene plural, the neuter plural, double plurals. Gender and noun treatment, how they differ in old, mediæval and modern Kanarese.

(2) Cases and case-endings in old, mediæval and modern Kanarese. Percilinds of case-formation.

VIII. *Accidence* (continued).—Adjective or attributive nouns (gunavacanas). Classification of adjectives. Formation of adjectives. Their gender and agreement with substantives. Ordinary nouns and pronominal nouns used as adjectives. Adjectives used as adverbs. Comparison of adjectives.

IX. *Accidence* (continued).—Numerals. The cardinals and the ordinals, the multiplicatives, appellative nouns of number in Kanarese and the history and principles of their formation.

X. *Accidence* (continued).—Pronouns. Classification of pronouns. Their forms in the dialects of Kanarese. Declension of pronouns. History of pronouns. Reflexive pronouns, demonstrative and interrogative pronouns.

XI. *Accidence* (continued).—Verb. 1. Structure of the verb. The base, the tense suffixes. Classification of verbs into transitive and intransitive, though felt, was not mentioned by Kesiraja and Nagavarma, but introduced by Bhattakalanka about 400 years later. The modes of forming the causals and the transitive.

2. The passive voice. The different modes of expressing the passive significance.

3. The various modes of expressing the negative significance,

4. The imperative form of the verb, the infinitive.

5. No moods in Kanarese—the conditional or the subjunctive, how expressed.

6. The primary tenses—the present, the preterite and the future. The history of their formation and their uses.

7. Other compound tenses, such as continuative perfect, imperfect future, perfect future, perfect, etc., though not specified in ancient grammars, how expressed.

8. Formation of the verbal participles, verbal nouns, derivative nouns and abstract nouns.

9. The various modes of expressing the English auxiliaries in Kanarese.

10. The frequentative or iterative verbs in Kanarese, but a kind of such verbs formed by simple (yugalōccārana) or triple repetition (triprayoga).

XII. *Accidence* (continued).—Adverbs, the different modes of their formation and their history.

Conjunctives and their history.

XIII. *Vocabulary.*—General character of the Kanarese vocabulary. The so-called Accagannada. Borrowing and its causes. Periods of borrowing, character and comparative extent of borrowing at each period. Hindustani, Marathi, English and Portuguese element. Loss of old words. Nature and extent.

XIV. *Vocabulary* (continued).—Samasamskrita words, tatsama words, tadbhavas, or apabhramsas, laws of formation.

XV. *Word-Building.*—(1) By composition. (2) By derivation. The various suffixes used to form nouns, verbs, adjectives, and adverbs, etc. (3) Root-creation.

XVI. *Semantics.*—Changes in meaning and usage. Elevation, degradation, specialization and generalization of native and foreign words.

XVII. *Syntax.*—1. Order of words in a sentence. The difference between Prose and Poetry as regards Syntax. Deviation from the normal order of words in a sentence and their cases.

2. The different kinds of karaka or the relation of the noun to the verb.

3. The uses of the cases.

4. The uses of the singular for the plural and *vice versa* of nouns, pronouns and verbs in a sentence.

5. Use of the singular and plural of Samskrita adjectives and their agreement with nouns.

(e) SYLLABUS FOR THE HISTORY OF THE MALAYALAM LANGUAGE.

I. *General.*—The origin and meaning of the word Malayalam. The place of Malayalam in the Dravidian family of languages. Its age and the geographical area where it has been in use. Kerala and its peculiar geographical position which brought about the development of Malayalam as a separate language. The beginning of the cultivation of Malayalam as a literary language. Earliest available works such as Ramacharitram, their importance for the historical study of the language.

II. *The periods of Malayalam language.*—Ancient, mediæval and modern characteristics of the language. Illustrative literature of each period and difference in point of grammar and vocabulary.

III. *Language and dialect.*—The standard of literary language and the spoken language. Their relation and mutual influence. The extent of Sanskrit influence on vocabulary and grammar. Dialects; How formed? Different localities and different classes of people in the same locality have different dialects. Are dialects discernible in old literary works?

IV. *The Alphabet.*—(a) The Script; its development. Ancient Vatteluttu, modern Arya-eluttu, history of the two scripts. Arya-eluttu and the consequent introduction of Sanskrit pronunciation. Changes in spelling consequent on the transcription of Vatteluttu into Arya-eluttu. (b) *The sound-values,* how far the alphabet is phonetic; its pronunciation: the spoken sounds and the written symbols. Causes of the differences in pronunciation and spelling in modern Malayalam. Spelling reform. Words spelt variously. Need for amplifying the Arya-eluttu so as to facilitate the presentation of English sounds in Malayalam. Difference between ancient and modern pronunciation.

V. *Phonology.*—(a) 1. Vowels and their relation to primitive Dravidian vowel systems. Classification of vowels according to the place of production. Diphthongs. Interchange of short vowels in Malayalam and other cognate languages. Long vowels mostly secondary. (b) Consonants and their relation to primitive Dravidian consonants. Classification of consonants according to the place of production. History of consonantal sounds, palatalization, dentalization, voicing, unvoicing. Consonant, length, Assimilation. Interchange of consonants in Dravidian languages: (*a*) palatals for gutturals and dentals; (*b*) linguals for dentals, etc. Conjunct consonants how formed; the part played by them in word-building.

VI. *Accidence.*—Nouns. (1) Nominal basis—primitive and derivative, noun-compounds, ancient and modern. Inflection of nouns for gender, number and case. *Origin of gender* in Dravidian: Co-ordination of nouns and demonstrative pronouns: instances where these pronouns are used to denote gender. Changes of the demonstrative pronouns when used as terminations; (*a*) masculine (*b*) feminine (*c*) neuter. Are Dravidian nouns naturally neuter? Gender prefixes and suffixes. Poetic gender. Result of personification—based on Sanskrit usage. Concord of qualifying adjuncts (attributes) and qualified words. *Number:* Suffixes ar, ir, or, mur, etc., *Kal* the most ancient plural Suffix—its changes. Difference in the use of plural forms. Honorific and epicene plurals. Double plurals kalviar, kanniar, avargal, exceptional forms of plural nouns always used in the plural. *Case,* the number of cases and Sanskrit influence; the formation of the oblique case; the inflexional base; cases formed by suffixes and cases formed by agglutination. *Gatis,* their origin and history. Functions of cases and their significance. Metaplastic forms.

VII. *Accidence* (continued)—*The Pronouns.*—Personal, demonstrative and interrogative; the last used as relative pronouns. The age of pronouns in the language. Their forms in old and modern Malayalam. Comparison of Dravidian pronouns. Honorific pronouns.

VIII. *Accidence* (continued).—*The Verbs* (1) The structure of the verbs; the base; formative particles added to roots. Classification of primitive roots according to (1) form—strong and weak; (2) the sense—(*a*) Transitive, (*b*) Intransitive; (*c*) Reflexive or Neuter; (*d*) verbs whose agents do not come in the nominative case. Classification of secondary roots; (*a*) Transitive verbs derived from Intransitive and Neuter verbs; (*b*) Causal verbs derived from Intransitive and Transitive verbs; (*c*) Demonstrative verbs; (*d*) Frequentative verbs.

Finite Verbs. Tenses—suffixes—personal terminations—origin of each; loss of personal terminations. Compound tenses. *Moods*—How the imperative is formed; How the infinitive is formed; Indicative, Optative, and Potential moods. *Voices*: Is there passive voice in Dravidian Languages? Devices for denoting the idea of the passive voice; the history of *pedu negative verbs*: the growing disuse of the negative tenses.

Infinitive Verbs.—Double parts of speech, incapable of serving as a complete predicate in a sentence. Verbal nouns and nouns of agency. Participles qualifying nouns as adjectives. Participles modifying verbs as adverbs.

IX. *Vocabulary.*—The general character of the Malayalam vocabulary at different periods. Indigenous words, cognate words—Tatsamas and Tadbhavas and causes of the latter. Borrowing—periods and causes of the borrowing; the purposes for

which foreign words were borrowed. Loss of old words—nature and extent.

X. *Word-building in Malayalam*—(1) by composition—Several kinds of compounds; (2) by derivation; The various suffixes used to form nouns, verbs, adjectives, adverbs; (3) Root-creation.

XI. *Semantics*—Changes in the meanings and usage. Elevation, degradation, specialization and generalization of native and foreign words.

XII. *Syntax*—Order of words in a sentence—the difference between Prose and Poetry as regards syntax. Special deviation from the normal order of words in a sentence and their causes. Sanskritic constructions in Malayalam.

(3) RELATED SUBJECT: THE DRAVIDIAN LANGUAGES: SYLLABUS FOR EARLY SOUTH INDIAN HISTORY.

I. *Geographical divisions, etc., of India.*—India, south of the Vindhyas; Mahismatí, the recognised point of separation between the north and the south; Dakhan and South India; Krishna the dividing line.

II. *Early inhabitants and their civilization.* etc.—Primitive inhabitants, their civilization and culture; the Aryan expansion southwards; knowledge of South India in Early Indian literature, Sanskrit and Pali; story of Agastya and his disciples; beginnings of Tamil literature.

III. *Cis-Vindhyan India in the Mauryan age.*—The Dakhan and South India in the Mauryan age; extent of Asoka's empire and his relations with South India; the rise of the Andhras; Kharavela and Kalinga; South India and Ceylon.

IV. *The Andhras of the Dakhan.*—The Andhras, their original home; their early history; Andhras in the Puranas; the later Andhras; the extent of the empire and its divisions; religion, literature, etc., under the Andhras; break up of the Andhra empire.

V. *South India in the early centuries of the Christian Era.*—South India at the dawn of the Christian era; political divisions of South India; contact with the outside world; commerce and colonization; Tamil literature of the period and its character.

VI. *The Pallavas and connected dynasties.*—The Pallavas and the Tondaiyar; Tondamandalam and its reclamation; Tondamandalam Tiraiyan of Kanchi; Satavahana expansion southwards; the Early Pallavas and their origin; their relation to the Andhras and the Tamil rulers of the South; the history of the Early Pallavas; the invasion of Samudragupta; the further

history of the Early Pallavas; Kadambas. Gangas, and other minor dynasties and their relation to the Pallavas; Pallava supremacy in South India: Pallava culture.

VII. *Cis-Vindhyan India in the age of the Guptas.*—Feudatories of the Andhras; the Chutus, the Abhiras, etc.; the Vidhyakas, the Vishnukundins, the Salankayanas, etc.; the Vakatakas; their rise and early expansion; the character of Samudragupta's southern invasion; the Vakatakas and the Guptas; continuance of Vakataka rule.

VIII. *The Pallava ascendancy in South India.*—Pallava ascendancy in South India; the great Pallavas of the Simhavishnu line; the extension of Pallava authority into the Chola country; the Pallava-Chalukya struggle; check to the Chalukya advance in the south under Pulakesin; the continuation of the struggle: overthrow of the Simhavishnu line by Nandivarman Pallavamalla; literature, art, etc., during the period.

IX. *The Chalukyas of Badami.*—The Early Chalukyas; Chalukya expansion under Pulakesin; check to Harsha's Imperial expansion; foundation of the kingdom of the Eastern Chalukyas; the successors of Pulakesin II; Chalukya overthrow by the Rashtrakutas; the general condition of the Chalukya kingdom: Hiuen-Thsang.

X. *The later Pallavas and the Pallava-Pandya Struggle.*—Later Pallavas; Nandivarman Pallavamalla; restoration of Pallava ascendancy. The Pallava-Pandya struggle; the Pallavas and the Rashtrakutas; the rise of the Gangas; the Gangas as Rashtrakuta feudatories; Dantivarman; Nandivarman of Tellaru; Nripatunga and Aparajita; the end of the Pallava ascendancy and the rise of the Cholas.

XI. *The Rashtrakuta Ascendancy.*—The Rashtrakutas; Dantidurga and the Pallavas; Krishna I, Dhruva and the Gangas; Govinda III; the expansion of the Rashtrakuta power; relation with the Gurjaras and of the Palas and the Eastern Chalukyas; the greatest expansion of the Rashtrakuta power under Amoghavarsha; the Gujarati branch of the Rashtrakuta; Krishna II; Krishna III; successors of Krishna III; Rashtrakutas and Paramaras; the supersession of the Rashtrakutas by the Chalukyas.

XII. *The Eastern Chalukyas.*—Eastern Chalukyas; change of relationship with the accession of the Rashtrakutas to power; Vijayaditya II; assertion of the Rashtrakuta ascendency under Govinda III and Amoghavarsha; relation between the Eastern Chalukyas and the Pallavas; internal dissensions; Chola intervention; Rajaraja II of the Eastern Chalukyas.

XIII. *The Chola Ascendancy in South India.*—The rise of the Cholas; the Pallava-Pandya wars; Vijayalaya; Aditya;

Parantaka, the founder of the greatness of the Cholas; the Chola-Rashtrakuta struggle; Rajaraja the Great; Rajaraja; his relations with the Eastern Chalukyas; Rajendra and the expansion of the Chola empire; his invasions of Northern India and across the seas; the Chola-Pandya war in the second half of the twelfth century; Ceylonese intervention; Kulottunga III; and the reassertion of Chola authority over the Pandyas; the revival of the Pandya power; the last Cholas; the Hoysala intervention; the establishment of the Pandya ascendancy; end of the Cholas.

XIV. *The Chalukyas of Kalyani.*—The later Chalukyas; the overthrow of the Rashtrakutas; the Chola conquest of Gangavadi and its results: the first wars of the Chalukyas against the Cholas; the Raichur Doab, the bone of contention; Somesvara Ahavamalla and the successors of Rajendra I; relation between the Eastern and the Western Chalukyas: Chola-Chalukya wars under Somesvara II and the early years of Vikramaditya; Vikramaditya VI; the condition of his empire; the successors of Vikramaditya; the rise of the feudatory states; the Kalachurya usurpation; the Chalukya restoration and extinction.

XV. *The Pandya Revival in the South.*—The revival of Pandya power under the successors of Kulottunga III: Rajaraja III; Pandyan invasions under Maravarman Sundara Pandya I; Hoysala intervention; Hoysala alliance with the Pandyas; Hoysala dominance in the South under Maravarman Sundara Pandya II; Jatavarman Sundara Pandya I; his wars and the end of Hoysala dominance in the Tamil country; successors of Jatavarman Sundara; Maravarman Kulasekhara and the prosperity of the Pandya kingdom; the wars between his sons and the Muhammadan invasion.

XVI. *The Feudatory Dynasties; I. The Hoysalas.*—The feudatories of the Chalukyas; the Hoysalas of Dvarasamudra; foundation of their power; its growth under Vishnuvardhana and Vira Ballala II. Hoysalas as an independent dynasty; Narasimaha II and the Hoysala expansion southwards; Somesvara and the Hoysala ascendancy in the south; division of the empire between Narasimha III and Vira Ramanatha; Vira Ballala III, ruler of the whole of the Hoysala territory; the Muhammadan invasions.

XVII. *The Feudatory Dynastics; II. The Yadavas of Devagiri.*—Seunas or Yadavas of Devagiri; the early rulers; Bhillama III, Viceroy of Somesvara I; Seunachandra II, Bhillama IV, the first paramount sovereign of this dynasty; Jaituji; Singhana; Devagiri, his capital; his wars against the Hoysalas and the Kakatiyas; Krishna and Mahadeva; relations between the Yadavas and the Kakatiyas; Yadavas and the Hoysalas; Ramachandra; Muhammadan invasions under him; Harapala; reduction of the kingdom by Mubarak Khilji.

XVIII. *The Feudatory Dynasties; III. Kakatiyas of Warangal.*—Foundation of the Kakatiya power. Prola; Prataparudra;

transfer of capital to Warangal; Mahadeva; Ganapati-Rudrama or Rudramba Prataparudra II; Muhammadan invasions in his reign; Krishna, his son the last ruler of the dynasty.

XIX. *The Muhammadan Invasions and the Foundation of Vijayanagar.*—Muhammadan invasions of South India, their character, extent, and result; the empire of Muhammad Tughlak; Muhammadan possessions south of the Vindhyas; Hindu struggle for the independence under Hoysala leadership; foundation of Vijayanagar and the Bahmani kingdoms.

XX. *Vijayanagar under the first dynasty.*—The first dynasty; Harihara and Bukka; the wars of the latter; Harihara II, assumption of imperial titles and responsibility; relations with the Bahmani kingdom under Harihara and his successors; the Bahmani wars and their character; Devaraya II, the greatest ruler of the first dynasty; the city and the empire under him, rise of Orissa; alliance between Orissa and the Bahmani kingdom; Devaraya's successors; condition of the empire.

XXI. *Vijayanagar under the usurpation; Saluvas and Tuluvas.*—The rise of the Saluvas; their position in the empire; the Bhamani and Orissa invasions; Saluva Narasinga; the character of his usurpation; his services to the empire; Narasa as *de facto* ruler; his son Narasimha II and general rebellion in the empire; accession of Krishna Devaraya: the condition of the Bahmani kingdom in the period of usurpation and after; wars against the Bahmani kingdom and the Raichur; the condition of his empire; rebellions in the empire and the last years of Krishna. Achyuta's restoration of order in the empire; character of his later administration; rise of Achyuta's brothers-in-law the elder and the younger Tirumala; Sadasiva; the rule of the brothers Rama, Tirumala and Venkata.

XXII. *Vijayanagar under the* de facto *rule of the brothers.*—Sadasiva the nominal ruler; relations with the Bahmani kingdom; condition of the distant south; "fishery coast" and Travancore; foundation of the Nayakship of Madura; the Portuguese; Talikota and its results; condition of the empire.

XXIII. *The later empire at Penukonda.*—The new empire at Penukonda; Tirumala; the successors of Tirumala; division of the empire; Sriranga emperor; his struggle against the advance of Muhammadans; the empire reunited under Venkata; disaffection in the southern provinces; wars against the Muhammadans; end of the viceroyalty of Seringapatam; foundation of Mysore; death of Venkata.

XXIV. *The decline and fall of the Vijayanagar empire.*—War of succession; the weakened condition of Vijayanagar; the provinces of the empire; Gingi, Tanjore, Madura, Mysore, and Ikkeri; the advance of the Mughals in the Dakhan, precarious condition of the Vijayanagar Empire; the last Emperor, Sriranga; his struggle for a united empire; end of the empire.

XXV. *Madura and Mysore, the sole remnants of the empire.* —Madura and Mysore continue as remnants of the empire; Mahrattas in the South; Shaji's conquests for Bijapur; occupation of Gingi and Tanjore; Sivaji's invasion of the south; Madura under the Nayaks; Mysore under Chikkadevaraya Odaiyar and his successors to the usurpation of Hyder Ali.

(4) URDU.

The course shall consist of:—

(*a*) Prose books from different periods, including at least one modern work.

(*b*) Poetry books from different periods, including at least one modern work.

(*c*) Translation from prose and poetry books other than the set books, translation from English into Urdu to be made in an approved modern style.

(*d*) History of Language and Literature.

(*e*) Indian History—Muslim Period, *or* Arabic *or* Persian.

(5) ARABIC OR PERSIAN (MAIN).

The course shall consist of:—

(*a*) Prose books selected from different periods.

(*b*) Poetry books selected from different periods.

(*c*) Translation from prose books other than the set books: translation from the set poetry books and from English into Arabic *or* Persian prose.

(*d*) History of Language and Literature with special reference to the set books.

(*e*) A selected period of early Muslim History.

The periods of History for Persian or Arabic may be one or other of the following:—

1. The four first Khalifas and the Umayyad Khalifate, excluding Africa and Spain.

2. The Abbasid Khalifate, excluding Africa and Spain and the wars of the Crusades.

3. The Muslim conquest of Egypt and Northern Africa until the fall of the Abbasid Khalifate and excluding the wars of the Crusades.

4. The Arab conquest of and rule in Spain.

5. The wars of the Crusades.

(b) ARABIC OR PERSIAN (SUBSIDIARY).

The course shall consist of the study of selected pieces from one poet of the classical period and selected portions from the works of one standard prose writer. There shall be one paper in the examination of three hours' duration which shall include pieces for translation from Arabic or Persian into the main language.

(6) ORIYA OR MARATHI.

The course shall be the same as for the Dravidian Languages, with the substitution of Gaurian Grammar for Dravidian Grammar, and of the Early History of Orissa or the History of the Marathas respectively for Early South Indian History.

(7) GREEK OR LATIN.

The course shall consist of:—

(*a*) Prescribed portions of the writings of the more important Greek or Latin authors.

(*b*) Grammar of the language with reference to Indo-Germanic Grammar.

(*c*) Greek or Latin Prose composition and translation of unprepared passages.

(*d*) A general knowledge of Greek History to the death of Alexander, or of Roman History to the death of Trajan, with a more minute knowledge of some prescribed period.

(*e*) A general knowledge of Greek or Roman Literature with a more minute knowledge of the authors of the prescribed books.

(8) FRENCH OR GERMAN.

The course shall consist of:—

(*a*) The study of set books representative of various periods of French or German literature.

(*b*) The History of French or German literature with special reference to the set books.

(*c*) The history of the French or German language.

(*d*) Translation from French or German into English, and of English into French or German.

(*e*) Composition.

(*f*) A period of European History with special reference to French or German History.

In the examination the subjects for composition shall be taken from the set books or shall relate to the periods of French or German literary or political history studied in the course. In the translation paper, the passages set for translation from French or German into English shall be specimens of modern French or German, not taken from the set books.

(9) HEBREW.

The course shall consist of:—

(*a*) Set books.

(*b*) Grammar and translation from and into Hebrew.

(*c*) History of the Language and the Literature.

(*d*) A selected period or periods of the History of the Jews.

Syllabus for the History of Literature for Arabic, Persian and Urdu under Part II.

(Any one of the following periods may be prescribed).

Periods of Literary History for Arabic.—

1. Pre-Islamic Period.
2. First two Centuries of Islam.
3. Later Abbasid Period—up to the sack of Bagdad.
4. History of Arabic Literature in Spain.

Periods of Literary History for Persian.—

1. Persian Literature under Tribal Kings—850—1000 A.D.
2. Safani Period.
3. Development of Persian Literature in India.
4. Modern Persian Literature.

Periods of Literary History for Urdu.—

1. Early Hindi and Dakhni Literature.
2. From Wali to Mir and Sawda.
3. From Sawda to Ghalili.
4. Development of Prose after 1858.
5. Modern Essays, Novels and Dramas.
6. Modern Urdu Poetry.

GROUP (VI)—INDIAN MUSIC.

In addition to the Intermediate Syllabus, the course shall include the following:—

Theory.—

1. *Acoustics.*—Production and transmission of sound waves; simple harmonic motion; vibrations of stretched strings; sympathetic vibration; Reflection of sound waves and echoes. Acoustics of the auditoria.

2. *Physiological Acoustics.*—Ear, larynx, etc.

3. *Musical Instruments.*—Musical Instruments that are in use in Southern India and their classification into stringed, wind and percussion groups. A general knowledge of the structure of the Violin, Veena, Tambura, Gotuvadyam, Flute, Nagaswaram, Mridangam, Tabala and Tavil.

4. *History of Music.*—History and development of South Indian Music with special reference to the following scholars, composers and musicians:—

1. Ahobala.
2. Rama Amatya.
3. Venkatamakhi.
4. Purandara Das.
5. Narayana Tirtha.
6. Bhadrachala Ramadas.
7. Parameswara Bhagavathar.
8. Maha Vaidyanatha Ayyar.
9. Somanath.

Biographies of the above.

5. Principles of Musical Composition.

6. Gamakas; the theory of 22 srutis.

7. A knowledge of the following 20 ragas and of at least one musical composition under each:—

1. Asaveri	11. Nalakuranji
2. Dhanyasi	12. Atana
3. Gaulipantu	13. Kedaram
4. Chakravakam	14. Begada
5. Ritigaula	15. Hamsadhvani
6. Kharaharapriya	16. Nilambari
7. Sriranjani	17. Suddha Saveri
8. Darbar	18. Kamavardhani
9. Sahana	19. Poorva Kalyani
10. Surati	20. Saranga.

8. Critical study of two kritis each of Tyagaraja, Muthuswami Dikshitar and Syama Sastri and two musical compositions each from any five of the following 22 composers:—

1. Anayya	12. Ramaswami Sivan
2. Arunachala Kavirayar	13. Mysore Sadasiva Rao
3. Doraiswamy Ayyar	14. Pallavi Seshayyar
4. Garbhapuri	15. Ramnad Srinivasa Ayyangar
5. Gopala Krishna Bharati	16. Dharmapuri Subbarayar
6. Pallavi Gopalayya	17. Subbaraya Sastri
7. Kshetragna	18. Patnam Subramanya Ayyar
8. Veena Kuppayya	19. Tirtha Narayanaswami
9. Lakshmana Pillai	20. Tiruvotiyur Tyagayyar.
10. Muthiah Bhagavathar	21. Vasudevachari (Mysore)
11. Purandara Vittala	22. Swati Tirunal (late Maharajah of Travancore.)

There shall be two theory papers of three hours' duration each carrying 100 marks.

PRACTICAL.

There shall be two practical examinations carrying 100 marks each and students shall show their musical proficiency either through vocal music or by playing one of the following instruments:—

1. Violin. 2. Veena. 3. Flute. 4. Gotuvadyam.

At the practical examination, the candidates' knowledge of tuning of the Violin, Veena, Tambura and Gotuvadyam will be tested.

Note:—Candidates need not and will not be allowed to sing while playing on an instrument during practical examinations.

Candidates will be expected to:—

(i) sing or play compositions in Adi, Roopaka, Triputa, Chapu and Jampa talas;

(ii) sing or play to the accompaniment of the Tambura;

(iii) sing or play *manodharma swaras* in the songs learnt by them in the following six ragas:—

1. Todi	2. Bhairavi	3. Mohana
4. Kambhoji	5. Sankarabharana	6. Kalyani.

A separate minimum of thirty per cent. under Theory and thirty-five per cent. under Practical Examination will be required.

Books for Reference—

1. Gayakalochanam by Tachur Singaracharlu.
2. Ganendu Sekharam by Tachur Singaracharlu.
3. Pallavi Swarakalpavalli by Tiruvottiyur Tyagayyar.

4. Sangita Sampradaya Pradarsini by Subbarama Dikshitar (2 vols.)
5. Sangita Swara Prastara Sagaram by Nadamuni Panditar.
6. Karunamirtha Sagaram by Abraham Pandithar.
7. Principles of Layam by K. Ramachandran, (The Indian Music Publishing House, Madras)
8. Music of Hindusthan by A. H. Fox-Strangways.
9. Music and Musical Instruments of Southern India and Deccan by Capt. Day.
10. Madras Museum Bulletin on South Indian Musical Instruments by P. Sambamurti (Govt: Museum, Egmore, Madras.)
11. Musical Instruments in the Indian Museum, Calcutta, by Dr. Meerwarth.
12. Richardson: "Sound."
13. Acoustics of the Auditoria by Davis and Kaye.
14. Svaramalakalanidhi—edited by M. S. Ramaswami Ayyar, (Annamalai University Publication).
15 Harmonia Bodhana Sangitha Kathnam—edited by Subrahmanya Ayyar, (Kamakshi Vilas Book Depot, Vepery, Madras).
16. Varna Malika by K. Ramachandran—(Messrs. V. Venkateswarlu Sastrulu & Co., Esplanade, Madras).

Group (vii)—GEOGRAPHY.

(1) *Regional Geography*:—The study of a larger region, such as a continent or continents, and a more detailed study of a smaller region—both regions being prescribed from time to time.

1935.

For the study of a larger region—*Europe.*

For a detailed study of a smaller region:—*The Monsoon Lands of Asia (including the East Indian Archipelago).*

(2) *Economic Geography.*—

(i) *General relations between Physical and Economic Geography*:—The influence of physical features, climate and the nature and distribution of soils and minerals on the distribution and growth of vegetation and animal life, and on the occupations, health and efficiency of man.

(ii) *Chief World Commodities*:—Distribution and conditions of production, relative supply and markets. Foodstuffs of vegetable and animal origin—mineral products—materials used in the textile industries—rubber, oils, timber, leather, and other articles of importance in the world commerce.

(iii) *Chief Industries*:—Their regional distribution, special attention being paid to textile, iron, and steel, ship-building and chemical industries—sources of mechanical power—the labour force in various parts of the world.

(iv) *Transport and Trade-routes*: inland and oceanic-relation to hinterland and markets. World ports—Exchange of products. Development of new regions and sources of trade.

(v) *Study of a particular region* other than that selected for special regional study—to be prescribed from time to time.

Special Region for 1935—*The United States of America.*

(3) *Physical Basis of Geography*:—

(i) (a) An elementary knowledge of the common rocks and of the simple geological structures and of the influence of geological factors on land forms.

(b) A very simple and general treatment of the geological history of the earth's crust, indicating the main features of the great geological systems—Archaean, Palaezoic, Mesozoic, and Tertiary.

(ii) A more detailed treatment than in the Intermediate syllabus of the surface features of the Earth with special reference to the evolution of land forms and to the various theories which have been put forward to account for their development.

(4) *Cartography*:—The study and interpretation of topographical maps of various scales and types, and of very simple geological maps. Methods of showing relief and other features. Scales and their transformation. A knowledge of the principal maps in use in the chief countries of the world and the 1|M International map.

Simple methods of survey, including the use of the chain, the plane-table, prismatic compass, and the clino-meter.

The principles of the following projections:—Mercator, Mollweide, simple conical, Gall's stereographic, orthographic, and Lambert's equivalent azimuthal. Candidates are expected to know the principle underlying each projection, its defects and its suitability for particular purposes or areas. They should be able to identify each projection as far as possible by inspection or rough measurement.

Candidates will be expected to show some acquaintance with field work; and their field work note-books will be submitted for scrutiny.

TEXT-BOOKS FOR THE B. A. DEGREE EXAMINATION, 1935.

New Regulations—(Revised Scheme).

*ENGLISH.

1935.

Shakespeare.—

As You Like It.

Othello.

Poetry.—

Milton: Paradise Lost, Book IV.

Keats: The Eve of St. Agnes.

Shelley: Ode to the West Wind.

Browning: Rabbi Ben Ezra. The Grammarian's Funeral

Modern Prose.—

Gibbon: Autobiography.

De Quincey: Essays, (The Wallet Library, Blackie & Son, omitting "Rhetoric", pp. 115—178.)

Twentieth Century Essays: (Archbold), omitting Essay X.

Composition.—

Meredith: The Ordeal of Richard Feverel.

Four Stevenson Stories: The Teaching of English Series. Nelson.

Lytton Strachey: Queen Victoria. The Phoenix Library—Chatto and Windus.

SANSKRIT.

1935.

PART II.

1. Kālidāsa—Śākuntala (whole).
2. Kālidāsa—Mēghasamdeśa (whole).
3. Uttarabhāga of the Kādambarīsamgraha (to be had of M.R.Ry. R. V. Krishnamachariyar, Sanskrit Pandit, Government College, Kumbakonam).
4. Daṇḍin—Kāvyādarśa—The first pariccheda only.

*Text-books for candidates under Transitory Regulations are the same as those prescribed for the candidates under Old Regulations (*vide* p. 746).

In connection with the History of Sanskrit Literature, a detailed study of Chapters X to XIV in Macdonell's History of Sanskrit Literature and of the whole of Keith's Classical Sanskrit Literature (Heritage of India Series) is recommended.

Note:—All these Sanskrit and English books can be had either through the Oriental Books-Supplying Agency, 15, Shukrawarpet, Poona or through the Proprietor, the Punjab Sanskrit Book Depot, Lahore.

PART III—GROUP (V).

(a) A. A. Macdonell: Vēdic Reader, the following Selections:—

Agni, I—1.

Savitṛ, I—35.

Maruts, I—85.

Viṣṇu, I—154.

Funeral Hymn, X—14.

Pitaras, X—15.

Gambler, X—34.

Yama, X—135.

Aitarēya-brāhmaṇa, VII—iii and iv.

Gautama Dharma Sūtra—Text only—Praśna I corresponding to Chaps. I to IX.—Bibliotheca Sanskrita (Government Press, Mysore, or Ānandāśrama Press, Poona).

Kaṭhopaniṣad—first adhyāya.

(b) Bhavabhūti—Uttararāmacarita.

Bhaṭṭanārāyana's Veṇisamhāra.

Bāṇa: Harṣacarita, Ucchvāsa III, (Nirnaya Sagara Press, Bombay).

Patañjali: Mahābhāṣya I, i, i.

Māhābhārata, Sāntiparva—Adhyayas 177 to 182 (Madhva Vilas Book Depōt, Kumbakonam).

Nīlakaṇṭha Vijaya by Nīlakaṇṭha Dīkṣita, Ucchvāsa I only (The Proprietor, Balamanorama Press, Mylapore).

(c) History of Sanskrit Literature:—

Dr. Macdonell's "History of Sanskrit Literature" and "India's Past".

Keith's Classical Sanskrit Literature—Heritage of India Series.

RELATED LANGUAGE.

Bhavabhūti-Uttararāmacarita.

Raghuvamśa—Cantos IV and VI.

RELATED SUBJECT.

Early History of India to the beginning of the present era (*i.e.*, Christian era).

Books recommended—

E. J. Rapson: Ancient India (Cambridge University Press).

V. A. Smith: Early History of India.

Dr. Macdonell's 'India's past'.

MARATHI.

1935.

PART II.

For Non-detailed Study.—

1. Vichar Vilas by V. M. Joshi, M.A., pages 1—140.
2. Marathyanchya Sattecha Utkarshha (Translation of "The Rise of the Maratha Power", by M. G. Ranade).

For Detailed Study.—

Prose.—

1. Yashavant Rao Khare by H. N. Apte.
2. Pratibha Sadhan by N. C. Phadke, M.A.

Poetry.—

1. Duyaneswari—Chapter XVI.
2. Raghaveeya Pariwaha—(Uttarardha) Sargas 11—16.
3. Krishna Vijaya (Uttarardha), Chapters 61—70.

Drama.—

Shakuntala by K. V. Godabole, B.A., LL.B.

For History of Language and Literature.—

1. Maharashtra Saraswat—Part I—3rd Edition.
2. Marathi Bhashhechi Ghatana by R. B. Joshi.
3. Wakprachar ani Mhani by V. V. Bhide, B.A.

N.B.—The above books can be had at Messrs. Parachure Puranick and Company, "Madhav Bagh", Bombay.

PART III, GROUP (v)—*New Regulations* AND PART II, GROUP (vi)—*Old Regulations*, 1935.

Prose.—

1. Kesaritil Nivadak Nibhandha, Part I by N. C. Kelkar.
2. Life of Thorale Shahu Maharaj by M. R. Chitnis.
3. Majhe Ramayan by D. Tulajapurkar, B.A., LL.B.
4. Atma Vidya by Godabole, B.A.

Poetry.—

Waman: (a) Niti and Vairagya Shatakas.
(b) Gangalahari.
(c) Charam Guru Manjari.

Moropant: Krishna Vijaya (Uttarardha), Chapters 50—59.

Duyaneswar: Duyneswari, Chapter IX.

Drama.—

Vikaravilasita by Agarkar.

RELATED SUBJECT.

The History of the Marathas up to 1820.

Books recommended.—

1. Rise of Maratha Power by M. G. Ranade.
2. Grand Duff's History of the Marathas.

COMPARATIVE GRAMMAR—GAURIAN.

GROUP (v).

Text-books recommended—

1. Dr. R. G. Bhandarkar's Wilson Philological Lectures (1877) on Sanskrit and Prakrit Languages derived from it. (Bhandarkar's Research Institute, Poona).
2. Dr. Gune's Introduction to Comparative Philology—Part I and Part V.
3. History of Marathi Literature by Nicol Macnicol, M.A., D.Litt., Poona. (The Heritage of India Series).

ORIYA.

1935.

PART II.

For Non-detailed Study.—

Mamu by Fakir Mohan Senapati.

For Detailed Study.—

Poetry.—

1. Rahasya Manjari by Deva Durlabha Das (Prachi Granthamala Series).
2. Tapasvani by G. Meher.

Prose.—

1. Pravandha Prakasha by Ratnakar Pati, M.A.
2. Aryajeevan by Nilakantha Das, M.A.

Drama.—

Purusottama Dev Natak by Godavarisa Misra, M.A.

Grammar.—

Vyakaranapravesa by Radhanath Rai.

For History of Language and Literature.—

1. Utkala Sahitya ra Itihasa by T. Rath.
2. Oriya Bhasha ra Itihasa by Vinayak Misra.

PART III—GROUP (v).

Classical Poetry.—

Kotibrahmanda Sundari—Cantos 1 to 10, by Upendra Bhanja.

Modern Poetry.—

1. Pranayini by Nilakantha Das.
2. Rshi Prane Devavatarana and Himachela Udayotsaba from the works of Madhusudan Roy.

Purana.—

1. Kiskindhya Kanda by Krushnacharana Patnaick.
2. Bhagavato Navama Skandha by Jaganatha Das.

Drama.—

Panchali Pattapaharana by Radhamohan Rajendra Dev.

Books for consultation.—

1. Utkala Sahitya ra Itihasa by B. Misra.
2. Utkala Sahitya ra Itihasa by T. Ratho.
3. Utkala Bhasha ra Itihasa by B. Misra.
4. Utkala Bhasa Tatwa by G. Nanda.
5. Comparative Grammar of Gaurian languages by Hoernile.

HISTORY—Group (v).

RELATED SUBJECT—1935.

Books prescribed.—

1. Prachina Utkala by Jagabandhu Singh.
2. Utkala Itihasa by Kripasindhu Misra.
3. W. W. Hunter's History of Orissa, Vol. II, pp. 1—173.

Books recommended for consultation.—

1. Orissa in the making by Vijayachandra Muzumdar with a foreword by His Excellency Sir Edward Gait, published by the Calcutta University.
2. Introductory essays in B. C. Muzumdar's Typical Selections from Oriya Literature—3 Volumes published by the Calcutta University.

N.B.—The above books can be had at "The Mukur Press, Cuttack," or at "The Trading Co., Cuttack", or at "The Students' Stores, Berhampore, (Ganjam District)".

HINDI.

1935.

Part II.

For Detailed Study.—

Poetry.—

Hindi Final Reader, Rivised Edition, (1927), Poems of Kabir, Surdas, Mirabai, Tulsidas, Rahim, Beharilal, Matiram, Devdutt, Barind, and Girdher. Publishers: the Indian Press, Ltd., Allahabad.

Prose.—

Hindi Prose Selections by Babu Ganga Prasad, M.A., published by the Indian Press, Ltd., Allahabad.

Drama.—

Chandrahas by B. Maitil Saran Gupta, published by Sahitya Sadan, Chirgaon, Jhansi, U. P.

For Non-Detailed Study.—

1. Charitra Chintan by Chabinath Pandey, B.A., LL.B., published by Hindi Pustak Agency, Harrison Road, Calcutta.
2. Budha Dev by Babu J. Mohan Varma, published by the Indian Press, Ltd., Allahabad.

For History of Language and Literature, the following books are recommended for consultation—

1. Bhasha Vigyan by N. Sanyal, M.A., published by the Indian Press, Ltd., Allahabad.
2. Rachara Chandradaya by Ramlochan Sharam, published by Hindi Pustak Bhandar, Darbhanga.
3. Keay's History of Hindi Literature.
4. Sketch of Hindi Literature.
5. Mishrabandhu Vinoda, Vol. I, Introduction.

LATIN.

1935.

PART II.

Virgil: Aeneid, VI.

Horace: Odes, Bk. I, Odes 1—30.

Cicero: Pro Roscio Amerino.

Tacitus: Histories Bk. III.

PART III—GROUP (v).

Text-books will be prescribed, if required.

FRENCH.

1935.

PART II.

Hugo: Hernani.

Paule Régnier: Petite et Nadie. (Plon, Paris),

Fr. Coppée: Contes choisis. (Siepmann's French Series, Macmillan).

A. Maurrois: D'Israeli. (Librairie Gallimard. 43, Rue de Beaune, Paris.)

PART III—GROUP (V).

Corneille: le Cid.

Molière: le Malade Imaginaire.

The Oxford Book of French Verse, only Nos. 168 to the end.

La Bruyère: Les Caractères.

Siegfried's Les Etats Unis.

Bazin: Mme. Corantine.

RELATED SUBJECT.

European History—1715-1815.

GERMAN.

1935.

PART II.

Goethe: Egmont.

Droste Hulshoff: Die Judenbuche. (O. U. P.).

G. Keller: das Fahnlein der Sieben Aufrechten. (abridged edition, Harrap).

PART III—GROUP (V).

Text-books will be prescribed, if required.

ARABIC.

1935.

PART II.

Kitabul Mahasin-Wal-Azdad.

Diwan-i-'Antra—till the end of "Dal".

Qawa-'idul-Lughatil 'Arabiyyah—whole.

History of Literature:—Arabic Literature in the first two centuries of Islam.

PART III—GROUP (V).

Tarikhu-Adabil Lughatil-' Arabiyyah by J. Zaydan—First 186 pages.

Majaniul-Adab—Part IV.

Mu'allaqut by Imara'ul Qays, Tarafa and Zuhayr.

Al Qu'ran—Surahs—Yusuf and Maryam.

The following books are recommended for Grammar, etc.:—

Palmer's Arabic Grammar excluding Prosody.

Majmu'ul Adab by Al-Yaziji for Rhetoric and Prosody.

Literary History of the Arabs by Nicholson.

PERSIAN.

1935.

PART II.

Prose and Drama.—

Chahar Maqalah by Nizami Samar qandi.

Sarguzashti Hakim Nabatat.

Wakalai-Murafa'ah.

Poetry.—

Lisanul Ghayb published by Ja'fari.

Majnun Layla by Khusraw—1st half.

Intikhab-i-Qasaid-i-Qa'ani—1st three Qasidahs.

Grammar.—

Misbahul Qawa'id.

History of Literature.—

Development of Persian Literature in India.

PART III—GROUP (v).

Prose.—

Nathrah-Nukhbai-Nathr-i-Farsi. Qismat-i-Suwwam.

Drama.—

Mard-i-Khasis.

Jijak Ali Shah.

Poetry.—

Shi'ra—Pages 1 to 42, 125 to 175 and 186 to the end.

Rumuz-i-Baykhudi.

Payam-i-Mashriq.

The following books are recommended for Grammar, etc.—

Kanzul Balaghat.

Literary History of Persia by Browne—4 Vols.

URDU.

1935.

Part II.

Prose.—

Mazamin-i-Hali.

Poetry.—

Intikhabi-Kalami-Mir by Abdul Haq.

Kulliyath-i-Akbar, Part II, 1st half.

Drama.—

Raj Dulari.

Non-detailed.—

Ta'yees.

Mazamini-Sharar, Vol. II. Part II.

Part III—Group (v).

Prose.—

Urdu-i-Mu'alla.

Hamari Sha'iri.

Muhsanat.

Drama.—

Faust.

Poetry.—

Muntakhabat-i-Ghalib

Ruhaniyath.

Taswiri-Jadhabath, Vol. I—1st 50 pages.

Books recommended for Grammar, etc.—

Qwa-'idi-Urdu by Abdul Haq.

Tarikh-i-Adabi—Urdu.

Tashilul—Balaghat.

RELATED SUBJECT FOR ARABIC AND PERSIAN.

The first four Caliphs and Umayyads.

RELATED SUBJECT FOR URDU.

The Later Three Mughals.

Note:—All the above books are available at the Islamiah Book Depot, Kurnool.

HEBREW.

1935.

Part II.

The Second book of Chronicles.

Isaiah I—XII and L—LIX.

Psalms LXXIII—LXXXIX.

Haggai (complete).

Part III—Group (v).

Text-books will be prescribed, if required.

TAMIL.

1935.

Part II.

Poetry.—

*(*Selections published by the University*)—

Pattinappalai.
பட்டினப்பாலை.

Agananuru .. 5 stanzas.
அகநானூறு.

Thinai Malai Nurraimbathu .. 20 stanzas.
திணைமாலை நூற்றைம்பது.

Tirukkural Porutpal .. 10 chapters.
திருக்குறள் பொருட்பால்.

Manimekhalai—Uralar Uraitha Kathai.
மணிமேகலை—ஊரலர் உரைத்த காதை.

Kamba Ramayanam—Urukkattu Padalam.
கம்பராமாயணம்—உருக்காட்டு படலம்.

Kanda Puranam—Kama Thagana Padalam.
கந்தபுராணம்—காம தகனப் படலம்.

Tirukkovaiyar .. 20 stanzas.
திருக்கோவையார்.

Kalladam .. 3 stanzas
கல்லாடம்.

Tiruvengada Kalambagam .. 100 lines.
திருவேங்கடக் கலம்பகம்.

Manonmaniyam, Acts I to III, by Prof. P. Sundaram Pillai, M.A. (Saiva Siddhanta Works Publishing Society, Coral Merchant Street, Madras.)
மனோன்மணீயம்.

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*Copies can be had from Messrs. E. M. Gopalakrishna Kone, 158-A, Broadway, Madras.

Prose.—

For Detailed Study.—

Mahilnan's Essays (Saiva Siddhanta Works Publishing Society, Madras.)

For Non-Detailed Study.—

Udayanan Charithai by Mahamahopadhyaya V. Swaminatha Ayyar, Triplicane, Madras.

உதயணன் சரிதை.

Padmavathi Charitham by A. Madhaviah (Perungulam House, Edward Elliot's Road, Mylapore, Madras).

பத்மாவதி சரிதம்.

PART III—GROUP (v).

Poetry:—

Volume I—Part I—University Selections.—

Pattuppattu-Pattinappalai, (பத்துப்பாட்டு பட்டினப்பாலை), pp. 28 to 29.

Pathitruppathu, (பதிற்றுப்பத்து), pp. 48 to 5[illegible]

Purananuru, (புறநானூறு) pp. 72 to 96.

Tirukkural, (திருக்குறள்) Chapters 98 to 108, pp. 220 to 229.

Silappathikaram, (சிலப்பதிகாரம், இந்திரவிழவூரெடுத்த காதை, கடலாடுகாதை, கனாத்திறமுரைத்த காதை)— pp. 266 to 288.

Purapporul Venbamalai (புறப்பொருள் வெண்பாமாலை) pp. 377 to 383.

Volume II—Part II—University Selections.—

Kamba Ramayanam-Aranyakandam (கம்பராமாயணம்-ஆரணியகாண்டம்) pp. 69 to 106.

Kandapuranam, (கந்தபுராணம்-குமாரக்கடவுள் திருவவதாரம்) pp. 232 to 238.

Tiruviruttam, (திருவிருத்தம்) pp. 283 to 289.

Prose.—

Cholan Karikalan (சோழன் கரிகாலன்) by Mr. L. Ulaganatha Pillai, Tanjore.

Tiruvalluvar by T. Chelvakesavaraya Mudaliyar, Perambore, Madras.

Tamil Moli Varalaru, (தமிழ் மொழி வரலாறு) by V. G. Suryanarayana Sastri, Madura.

Tamil Varalaru, Parts I and II by Rao Bahadur K. S. Srinivasa Pillai.

Grammar.—

Nannul (நன்னூல்)

Cholladikaram, Sankaranamasivaya's Commentary, (சொல் லதிகாரம், சங்கர நமச்சிவாயர் உரை)

Visaga Perumal Ayyar—Yappilakkana Vina Vidai, (Ripon Press, Madras).

RELATED SUBJECT.

Vide page 443.

TELUGU.

1935.

PART II.

Poetry (Old):—

1. Bharatamu—Tikkana — Udyogaparvamu—Sree Krishna Rayabaramu. Canto III—The whole.
2. Jaimini Bharatamu by Pillalamarri Pina Veerabhadrudu —Aswamedhaparvamu—Chandrahasa Charitramu.
3. Sameerakumara Vijayamu by Pushpagiri Timmanna, Canto VI, Garudagarva Bhangamu—Verses 107—234.

Poetry (Modern):—

Suklapakshamu by Anantapantula Ramalinga Kavi (whole). (Copies available with Dr. A. Suryanarayana, L.M.P., Medical Practitioner, Parvatipuram.)

Drama:—

Uttararama Charitramu—Translated by J. Ramayya Pantulu—Copies available with the Author, Retired Presidency Magistrate, Mukteswaram, Tottaramudi P. O., E. Godavari Dt.

Prose:—

Raghuvamsamu—Part I—by Deepala Picchayya Sastri Garu, Manager, Kalanidhi, Nellore, Chapters 1 to 4 (pages 1 to 69).

Bharatasaramu by N. Kuppuswamiah Garu, Chapters 7, 8 and 9. (Copies available with Vidvan Janamanchi Venkatasubrahmanya Sarma Garu, Telugu Pandit, Municipal High School, Cuddapah.)

Vadarubothu (Sadhana Press, Anantapur), pages 1 to 76.

Non-detailed:—

Palnati Veera Charitram—Whole. Edited by A. Umakantam Garu, Presidency College, Madras, and available at V. Ramaswamy Sastrulu & Sons, Madras.

Mahaveerudu by Manavalli Ramakrishna Kavi Garu, (available with Madireddi Subba Rao, Book-Seller, Rajahmundry.)

Books recommended for translation:—

University Exercises in Translation by Dr. C. Narayana Rao, Ceded Districts College, Anantapur.

PART III—GROUP (v).

Poetry (Old).—

Kalapurnodayamu by Pingali Sooranna, Canto iv, Verses 1 to 151.

Uttara Harivamsamu by Nachana Somanatha, Canto ii, the whole.

Harischandra Nalopakhyanamu by Ramarajabhushana, Canto iii, Verses 67.

Accha Thenugu Ramayanamu by Kuchimanchi Timmakavi—Kishkindhakandamu.

Raghavapandaviyamu—Canto iv with Bhavaprakasika by Pandit E. Bhashyakacharyulu. (Publishers, Ananda Press, Madras).

Poetry (Modern).—

Selections from Jeevayatra, by Vidvan K. Kanakamma Garu, 100 Verses from Verse 150 to the end, excluding Sanskrit Slokas, Price, Re. 0-8-0. Available with the Authoress, Queen Mary's College, Triplicane, Madras.

Madhuravijayamu by Thadepalli Raghavanarayana Sastri, First Canto, excluding the first 33 stanzas. Available at Mudigonda Nagalinga Sastri, Ramalingeswarapeta, Tenali. Price, Re. 0-10-0.

Drama.—

Ascharyachudamani by Kaviraju Viswanatha Sarma, Telugu Pandit, M. R. College, Vizianagram. Available from the Author. Price Re. 1.

Savitri Chitraswamu by Dharmavaram Krishnamachari Garu, (Publishers—Rama Vilas Press, Bellary.)

Prose—Detailed.—

Harsha Charitra by Mr. M. V. Ramanacharyulu—First three Chapters. (Copies available with the Author, Sanskrit Pandit, Maharaja's College, Vizianagram).

Sāraswatopanyasamulu by Rallapalli Ananthakrishna Sarma, Telugu Pandit, Maharaja's College, Mysore. (Available with the Author. Price, Re. 0-12-0).

Bhagavathamu by Sataganitham Venkataranga Sastri Garu, Skandas 7 and 8 only, pages 130, (Vavilla Ramaswami Sastrulu & Sons, Madras.)

Prose—Non-detailed.—

Manassariramulapai Parisaramula Prabhavamu by P. Jagannadhaswami, M.A., L.T., (Available with the Andhra Patrika Press, Madras.)

Amaravatistupamulu and other Essays by M. Somasekhara Sarma—(Author, 2|19, Audiappa Mudali Street, Purasawalkam, Madras. Price, Re. 0-8-0.)

Inscriptions.—

1. Bezwada Yuddha Malluni Sasanamu.
2. Chalukya Sasanamu—Published in Bharati (Andhra Patrika Office). (Same as Addanki Sasanamu published with notes by Mr. M. Somasekhara Sarma in the issue of Bharati for March 1928).

Literary Criticism.—

1. Andhra Kavitva Charitramu by Basavaraju Venkatappa Rao Garu. (Available with Messrs. Vavilla Ramaswami Sastrulu & Sons, Madras.)
2. Kalidasuni Kalapratibhalu by K. Ramakrishnayya Garu, Senior Lecturer in Telugu, Limbdi Gardens, Royapettah, Madras.
3. Vimarsatharangini by N. Veeraraju Garu, Pithapuram.
4. Andhra Bharata Kavita Vimarsanamu by K. Ramakrishnayya Garu, Chapters 3 and 4. (The Author, Limbdi Gardens, Royapettah, Madras.)

History of Literature.—

1. Andhra Vangmaya Charitra—by Vanguri Subba Rao.
2. Andhra Kavulacharitra—by K. Veerasalingam—Part I (Revised) and Part II, (Hitakarini Samaj, Rajahmundry.)

History of Language.—

Bashôthpatthi Kramamu—by K. Ramakrishnayya, O. R. Institute, Limbdi Gardens, Royapettah, Madras.

Grammar, Prosody and Poetics.—

1. Bala Vyakaranamu—by Chinnaya Suri.
2. Prouda Vyakaranamu—by B. Sitaramacharlu.

3. Appa Kaviyamu—Contos III and IV.
4. Narasabhupaliyamu—by Bhattumurti.
5. Dasarupakamu by Malladi Suryanarayana Sastri, Telugu Pandit, College of Arts, Waltair.
6. Chandas Sastramu, by T. Rajagopala Rao, Christian College, Madras.

Philology.—

1. Introduction to Dravidian Philology by Dr. C. Narayana Rao.
2. Dravida Bhashalu by Vidwan G. J. Somayaji, M.A., L.T., Andhra University, Waltair.

RELATED SUBJECT.

Vide page 443.

KANARESE.

1935

PART II.

Detailed Study:—

1. Pushpadanta Purana by Gunavarma. Aswasa 2. Madras University Publication. (Copies available at C. Coomaraswami Naidu & Sons, G. T., Madras).
2. Jagannatha Vijaya by Rudra Bhatta. Aswasa 8. (Mysore Oriental Library edition).
3. Sasana Padya Manjari by R. Narasimhachar—Numbers 87, 124, 125 (stanzas 625 to 640, both inclusive), 129, 241 and 268. (The Author, Malleswaram, Bangalore).
4. Ramaswamedha by Muddana. Aswasas 5, 6 and 7, ("Kavya Kalanidhi" Office, Mysore).
5. Pratima Nataka by M. Sitarama Sastry. (Karnataka Sangha, Central College, Bangalore).
6. Sri Krishna Parijata by B. Narahari Sastri. (Bellave Book Depot, Balepet, Bangalore City).
7. Yajna Kunda by K. Sankara Bhatta. (Bala Sahitya Mandala, Mangalore).
8. Karnataka Kavicharitre, Vol. I, by R. Narasimhachar—Introduction and Poets of the Thirteenth Century. (The Author, Malleswaram, Bangalore).

Non-detailed Study:—

1. Visha Vriksha by B. Venkatachar. (Satya Shodhana Book Depot, Fort, Bangalore).
2. Pampa Yatre by V. Sitaramayya. (Ram Mohan Book Depot, Balepet, Bangalore City).

PART III—GROUP (v).

(i) Selections published by the University—Volume II, Chandraprabha Purana (pp. 103 to 146).

(ii) Ramashwamedha (modernized), Part I, by M. Shankara Bhatta (Bala Sahitya Mandala, Mangalore).

(iii) Viddyullata by N. Tirumalamma (Sati Hitaishini Granthamala Office, Nanjangud).

(iv) Sakuntala Nataka by Basappa Sastri (Pandit B. Mahadeva Sastry, Kerlapur P. O., Hassan Dt.).

(v) Kavi Charite by Rao Bahadur R. Narasimhachar, M.A., Volume II, Introduction and Poets of the 16th Century (Author, Malleshwaram, Bangalore).

(vi) Sasana Padyamanjari by Rao Bahadur R. Narasimhachar, M.A., Malleshwaram, Bangalore.

(vii) Apratima Vira Charite by Tirumalarya (Kavya Kalanidhi Office, Mysore).

(viii) Sringara Ratnakara by Kavi Kama (Kavya Kalanidhi Office, Mysore).

(x) Sabdamani Darpana by Kesiraja (B. E. M. Book Depot, Mangalore).

(xi) Chhandassu by Nagavarma (B. E. M. Book Depot, Mangalore).

(xii) Primrosa Vijaya by S. G. Govindaraja Ayyangar (M. S. Rao & Co. Avenue Road, Bangalore).

RELATED SUBJECT.

Vide page 443.

MALAYALAM.

1935

PART II.

Non-detailed Study.—

1. Paranki Patayali by K. M. Panikkar, M.A. (Oxon.), (B. V. Book Depot, Trivandrum.)
2. Jeevithakramam by Prof. A. Gopala Menon, M.A., B Com., College of Arts, Trivandrum.

Detailed Study.—

Poetry.—

1. Adhyātma Ramayanam — Kishkintha Kandam, by Ezhuthachan (any press).
2. Buddha Charitam—Kilipattu—Fifth Kandam, by N. Kumaran Asan. (Mrs. Kumaran Asan, Thonnakkal, near Trivandrum).
3. The following Selections from Mani Manjusha by Ullur S. Parameswara Ayyar, M.A., B.L., Trivandrum.
   1, 4 to 6, 8, 9, 11 to 15.
4. Uthara Rama Charitam, Kilipattu, by Attur Krishna Pisharoti, Poothole Pisharam, Trichur.

Drama.—

Bhasha Mudrārākshasam—by M. Udaya Varma Rajah, B.A., Mavelikara, Travancore.—Revised Edition (copies available from the author or from the N. S. S. Press, Trivandrum).

Prose.—

1. Oyyarath Chandu Menon by Murkoth Kumaran. (V. V. Publishing House, Trivandrum.)
2. Sahityapulakam—Parts II and III by K. Vasudevan Mosad, Pandit, Malayalam Improvement Committee, Trichur.

PART III—GROUP (v).

Poetry.—

1. Karna Parvam—Bharatam (Ezuthachan).
2. Kalakeyavadham—Kathakali by Kottayath Thampuran. Edited by P. Krishnan Nair (Siromani), Limbdi Gardens, Royapettah.
3. Sakuntala and Visakhan from Moonu Bhashakavyangal by K. Kesavan Nair, Maharaja's College, Ernakulam.

Prose.—

1. Ayēsha by K. Raman Nambiar, Guruvayoor, Chowghat.
2. Premamritam by C. V. Raman Pillai, B.A., (B. V. Book Depot, Trivandrum.)

Drama.—

Manipravala Sakuntalam by Kerala Varma Valia Koil Thampuran, (B. V. Book Depot, Trivandrum.)

Old Poetry.—

1. Rama Charitam—1 to 5 Patalams. University Selections for B.A., Part I.
2. Kannassa Ramayanam—Balakandam—1 to 96 Slokas, edited by K. Parameswaran Pillai, M.A., Nantiyar Veetu, Thampanoor, Trivandrum.
3. Krishnagatha—Kamsa Sadgathi—Mangalodayam Press, Trichur.
4. Ramayana Prabantham—Khara Vadham and Sugreeva Sankhyam.—Trivandrum Malayalam Series—Government Press, Trivandrum.

RELATED SUBJECT.

DRAVIDIAN LANGUAGES.

Early South Indian History, the part prescribed in Chapters I to XVIII of the Syllabus, *vide* pp. 415—417.

TEXT-BOOKS

FOR THE B. A. DEGREE EXAMINATION, 1936.

ENGLISH.

1936.

Shakespeare.—

As you like it.

Macbeth.

Poetry.—

Milton: Comus.

Longer English Poems from Spenser to Alfred Noyes. (Harrap).

The following selections:—

Dryden: Macflecnoe.

Gray: The Bard.

Wordsworth: Tintern Abbey.

Keats: The Eve of St. Agnes.

Browning: Andrea Del Sarto.

Prose.—

Burke: The American Speeches. Ed. Selby. (Macmillan).

De Quincey: Essays. The Wallet Library. (Blackie)—omitting "Rhetoric" pages 115—178.

Sharma: Ideals and Realities. (Oxford University Press).

Non-detailed Study.—

Dr. Johnson: A Selection from Boswell's Biography. (The Scholar's Library—Macmillan).

George Eliot: Silas Marner.

Laurence Binyon: Akbar. (Peter Davies).—Indian Edition (Messrs. Rochouse & Sons, No. 292, Esplanade, Madras).

SANSKRIT.

1936.

PART II AND PART III—GROUP (v).

The same as for Part II and Part III—Group (v) of 1935, respectively (i.e.).—

PART II.

1. Kālidāsa—Sākuntala (whole).
2. Kālidāsa—Mēghasamdeśa (whole).

3. Kādambarīsaṃgraha—Uttarabhāga (to be had of M.R.Ry. R. V. Krishnamachariyar Avargal, Sanskrit Pandit, Government College, Kumbakonam),

4. Daṇḍin—Kāvyadarśa—The first paricheda only.

In connexion with the *History of Sanskrit Literature*, a detailed study of Chapters X to XIV in Macdonell's *History of Sanskrit Literature* and of the whole of Keith's *Classical Sanskrit Literature* (Heritage of India Series) is recommended.

Note.—All these Sanskrit and English books can be had either through the Oriental Books supplying Agency, 15, Shukrawarpet, Poona, or through the Proprietor, the Punjab Sanskrit Book Depot, Lahore.

PART III—GROUP (v).

(a) A. A. Macdonell: Vedic Reader, the following selections:—
Agni, I—1.
Savitṛ, I—35.
Maruts, I—85.
Viṣṇu, I—154.
Funeral Hymn, X—14.
Pitaras, X—15.
Gambler, X—34.
Yama, X—135.

Aitarēya-brāhmaṇa, VII—iii and iv.

Gautama Dharma Sūtra—Text only—Praśna I corresponding to Chapters I to IX only.—Bibliotheca Sanskrita. (Government Press, Mysore, or Anandasrama Press, Poona).

Kaṭhopaniṣad—first Adhyāya.

(b) Bhavabhūti-Uttararāmacarita.

Bhattanārayana's Venisamhara.

Bāṇa: Harṣacarita. Ucchvāsa, III (Nirnaya Sagara Press, Bombay).

Patañjali: Mahābhāsya, I, i, i.

Māhābhārata Śāntiparva—Adhyayas 177 to 182 (Madhava Vilas Book Depot, Kumbakonam).

Nilakaṇṭha Vijaya by Nilakaṇṭha Dīkṣita, Ucchvāsa I only. (The Proprietor, Balamanorama Press, Mylapore,)

(c) History of Sanskrit Literature—

Books recommended for study.—

Dr. Macdonell's "History of Sanskrit Literature" and "India's Past."

Keith's classical Sanskrit Literature—Heritage of India Series.

RELATED LANGUAGE.

Bhavabhūti-Uttararāmacarita.

Raghuvamśa—Cantos IV and VI.

RELATED SUBJECT.

Early History of India to the beginning of the present era (*i.e.*, Christian era).

Books recommended—

E. J. Rapson: Ancient India. (Cambridge University Press).

V. A. Smith: Early History of India.

Dr. Macdonell's 'India's Past.'

MARATHI.

1936.

PART II.

For Non-detailed Study.—

1. Neetishastravichar by V. S. Gogate, M.A.
2. Hindu Dharma ani Sudharana by M. S. Gole, M.A.

For Detailed Study.—

Prose.—

1. Pratibha Sadhana by Phadke, M.A.
2. Achutrao Kolhatkar Smarak-grantha.

Poetry.—

1. Duyaneshwari, Chapter XVI.
2. Karnaparva, Chapters 1—13, pages 1—103, edited by D. K. Oka, B.A.
3. Namasudha by Waman Pandit, Edited by B. A. Bhide, B.A.

Drama.—

Maharashtra Shaukuntala by K. V. Godabole, B.A., LL.B.

For History of Language and Literature.—

1. Maharashtra Saraswat, Part I, 3rd edition, by V. L. Bhave.
2. Marathi Bhashhechi Ghatana by R. B. Joshi.
3. Marathi Gadyacha Ingraji Avatar by Prof. D. V. Potadar, B.A.

N.B.—The above books can be had at Messrs. **Parachure Puranick and Company, 'Madhav Bagh', Bombay.**

PART III—GROUP (v).

Prose.—

1. Kesaritil Nivadaka Nibandha, Part I, by N. C. Kelkar, B.A., LL.B.
2. Life of Thorale Shahu Maharaj by M. R. Chitnis.
3. Maze Ramayan by D. Tuljapurkar, B.A., LL.B.
4. Atma Vidya by Godbole, B.A.

Poetry.—

Waman: (1) Niti and Vairagya Shatak.
(2) Gangalahari.

Moropant: (1) Krishna Vijaya, Uttarardha, Chapters L—LIX.
(2) Dnaneshwari, Chapter X.
(3) Drama—Vikarvilasita—by G. G. Aagarkar, M.A.

RELATED SUBJECT.

1. History of the Marathas by Grant Duff.
2. Rise of the Maratha Power, M. G. Ranade, M.A., LL.B.

For Comparative Grammar.—

Books recommended.—

1. Dr. R. G. Bhandarkar's Wilson Philological Lectures (1877) on Sanskrit and Prakrit Languages derived from it (Bhandarkar's Research Institute, Poona).
2. Dr. Gune's Introduction to Comparative Philology, Part I and Part V.

ORIYA.

1936.

PART II.

Drama.—

1. Prakruta Pranaya Natak by R. R. Deo.
2. Purushottama Deb Natak by Godavarish Misra.

Prose.—

1. Prabandha Prakasa by Ratnakara Pati.
2. Bhakta Kabi Madhusudan by K. Panigrahi.

Poetry.—

1. Tapaswini by Gangadhar Mehera.
2. Rahasya Manjari by Deba Durlabha Das (Prachi Grantha Mala Series).

For Non-Detailed Study.—

1. Italiya Juba by Radhanath Raya.
2. Iswara Chendra Bidyasagar by Brojobandhu Das.

For History of Language and Literature.—

1. Utkala Sahitya ra Itihasa by T. C. Rath.
2. Utkala Bhásha ra Itihasa by B. Misra.

PART III—GROUP (V).

Classical Poetry.—

1. Koti Brahmanda Sundari by Upendra Bhanja—Cantos 4—10.
2. Bidagdha Chintamony—Cantos 5—10.

Modern Poetry.—

1. Pranayini by Neelakantha Das.
2. The following selections from the works of Madhusudan Roy:—
   (a) Rushi Prane Debabatarana.
   (b) Jeevana Chinta.
   (c) Dhwani.
   (d) Udbodhana.
   (e) Nadi Prati.

Prose.—

1. Konarka by Krupasindhu Misra.
2. Bibeki by Radhanath Roy.

Drama.—

1. Kalapahada by A. Ghose.
2. Mudra Rakhyasa by M. Rath.

Puranic Poetry.—

1. Ramayana—Sundarakanda—by K. C. Patnaik.
2. Bhagavata—Navama Skandha—by Jaganath Das.

Books for Consultation.—

1. Utkala Sahitya ra Itihasa by B. Misra.
2. Utkala Bhasha Tatwa by G. Nanda.
3. Comparative Grammar of Gaudian Languages by Hoernile.

HISTORY—GROUP (v).

RELATED SUBJECT.

Books Prescribed.—

1. Prachina Utkala by Jagabandhu Sing.
2. Utkala Itihasa by Krupasindhu Misra.
3. W. W. Hunter's History of Orissa, Vol. II, Pages I—173.

Books recommended for Consultation.—

1. Orissa in the making by Bijaya Chendra Muzumdar, published by the Calcutta University.
2. Introductory Essays in the B. C. Muzumdar's Typical Selections from Oriya Literature—Three Vols., published by the Calcutta University.

HINDI.

1936.

PART II.

The same as for 1935, (i.e.).—

For Detailed Study.—

Poetry.—

Hindi Final Reader, Revised Edition (1927), Poems of Kabir, Surdas, Mirabai, Tulsidas, Rahim, Beharilal, Matiram, Devdutt, Barind and Girdher. Publishers: the Indian Press, Ltd., Allahabad.

Prose.—

Hindi Prose Selections by Babu Ganga Prasad, M.A., published by the Indian Press, Ltd., Allahabad.

Drama.—

Chandrahas by B. Maitli Saran Gupta, published by Sahitya Sadan, Chirgaon, Jhansi, U.P.

For Non-Detailed Study.—

1. Charitra Chintan by Chabinath Pandey, B.A., LL.B., published by Hindi Pustak Agency, Harrison Road, Calcutta.
2. Budha Dev by Babu J. Mohan Varma, published by the Indian Press, Ltd., Allahabad.

FOR B.A. DEGREE EXAMINATION, 1936.

For History of Language and Literature, the following books are recommended for consultation.—

1. Bhasha Vigyan by N. Sanyal, M.A., published by Indian Press, Ltd., Allahabad.
2. Rachara Chandradaya by Ramlochan Sharam, published by Hindi Pustak Bhandar, Darbhanga.
3. Keay's History of Hindi Literature.
4. Sketch of Hindi Literature.
5. Mishrabandhu Vinoda, Vol. I, Introduction.

LATIN.

1936.

PART II.

Aeneid VI.

Horace: Odes, Book I, 1 to 30.

Cicero: Pro Milone.

Tacitus: Histories III.

PART III—GROUP (v).

Text-books will be prescribed, if required.

FRENCH.

1936.

PART II.

Paule Régnier· Petite et Nadie. (Plon Paris).

Fr. Coppee: Contes choisis. (Macmillan).

Balzac: Eugénie Grandet. (Oxford University Press).

Rostand: Cyrano de Bergerac. (Librarie Charpentier et Fesquelle, II Rue de Grenelle, Paris).

PART III—GROUP (v).

Text-books will be prescribed, if required.

GERMAN.

1936.

PART II.

The same as for 1935, (i.e.).—

Goethe: Egmont.

Droste Hulshoff: Die Judenbuche. (O. U. P.).

G. Keller: das Fahnlein der Sieben Aufrechten. (Abridged edition, Harrap).

PART III—GROUP (v).

Text-books will be prescribed, if required.

ARABIC.

1936.

PART II.

Prose & Poetry.—

Nafhatul Yaman.

Surah-i-Yusuf.

Grammar, etc.:—

Thatcher's Arabic Grammar.

History of Arabic Literature.—

The same as for 1935, (i.e.).—

Arabic Literature in the first two Centuries of Islam.

PART III—GROUP (v).

Prose.—

Khulasatu—Tarikh-i-Adabil—Lughatil—Arabiyyah by **Jurji** Zaydan.

Maqamat—by Badi 'uzzaman—First Seven maqamat.

Surahs—Taha and Al-Mulk.

Poetry.—

Diwan-i-Mutanabbi—Radif Alif.

Mu'allaqah by 'Amr bin Kulsum.

'Azra-i-Quraysh.

Books recommended for Grammar and History of Literature.—

The same as for 1935, (i.e.).—

Palmer's Arabic Grammar excluding Prosody.

Majmu'ul Adab by Al-Yaziji for Rhetoric and Prosody.

Literary History of the Arabs by Nicholson.

RELATED SUBJECT.

The Arab conquest and rule in Spain.

PERSIAN.

1936.

PART II.

Prose.—

Wukula-i-Murafa'ah.

Siyahat Nameh Ibrahim Beg—up to Ijmal-i-Siyahat-i-Qazwin.

Poetry.—

Nasim-i-Shimal—Part II, from page 50 to 137.

Qiranus—Sa'adayn by Khusraw.

Grammar, etc.—

Misbahul Qawa'id.

History of Persian Literature.—

Development of Persian Literature in India.

PART III.

Prose and Drama.—

Nathrah.

Mard-i-Khasis.

Dam Gustran.

Qissa-i-Haji Baba Isfahani, 1st half.

Poetry.—

Shi'rah.

Javid Nameh.

Diwan-i-Ghalib—Radif Alif and Mim.

The following books are recommended for Grammar, etc.—

1. Platt's Persian Grammar.
2. Kanzul Balaghat.
3. Literary History of Persia—4 Volumes.

RELATED SUBJECT.

The Arab conquest and rule in Spain.

URDU.

1936.

PART II.

Prose.—

Ifadat-i-Salim or Mazamin-i-Hali.

Poetry.—

Intikhabi-kalami-Mir by Abdul Haq.

Kulliyath-i-Akbar, Part II—1st half.

Drama.—

Anar Kali.

Non-detailed.—

Ayyam-i-Arab—Whole.

or

Mazamin-i-Sharar—Volume II—Part I. Historical and Geographical.

History of Literature.—

The Development of Prose after 1858.

PART III—GROUP (v).

Prose.—

Urdu-i-Mu'alla.

Muqaddima-i-Shi'ro-shairi.

Muhsanath.

Faust.

Poetry.—

Muntakbahat-i-Ghalib.

Diwan-i-Athar Dihlawi.

Masnavi Mir Hasan.

Subhi-watan by Chakbast.

The following poems of Iqbal.—

Shikwah.

Jawab-i-shikwah.

Taswir-i-Dard.

Sham'wa Sha'ir.

Khizar-i-Rah.

Tulu 'i-Islam.

Books recommended for Grammar, etc.—

The same as for 1935, (i.e.).—

Qwa-'idi-Urdu by Abdul Haq.

Tarikh i-Adabi—Urdu.

Tashilul—Balaghat.

Related subject—From 1526 *to* 1707.

Note:—The above books can be had from the Islamiah Book Depot, Kurnool.

HEBREW.

1936.

PART II.

Second—Kings.

Hosea—the whole.

Psalms, 73—106.

PART III.

Job.

Nehemiah.

Micah.

Book of Daniel.

Psalms, 1—106.

Related subject.—

Age of Maccabees.

TAMIL.

1936.

PART II.

Poetry.—

(Selections published by the University)—	Lines.
1. Purananuru புறநானூறு	100
2. Porunaratruppadai பொருநராற்றுப்படை	248
3. Tirukkural—Porutpal திருக்குறள்-பொருட்பால்.	200
4. Cintamani—Vimalaiyar Ilambakam சிந்தாமணி-விமலையார் இலம்பகம்.	400
5. Cilappadikaram—Katchikkadai சிலப்பதிகாரம்-காட்சிக்காதை	194
6. Kambaramayanam—Surppanakaippadalam கம்பராமாயணம்-சூர்ப்பணகைப் படலம்.	440
7. Tirukkalambakam திருக்கலம்பகம்.	50
8. Tolil Cirappu தொழில் சிறப்பு.	40
9. Nellaicciledai Venba நெல்லைச்சிலேடை வெண்பா.	40

Prose—For Detailed Study.—

1. Rajarajacholan I by L. Olaganatha Pillai, Rajah's College, Tiruvadi.
   இராஜ ராஜ சோழன் I.
2. Tiruvalluvar by M. S. Bharathi, M.A., B.L., Annamalai University.
   திருவள்ளுவர்.
3. Nallisaippulamai Melliyalargal by R. Raghava Ayyangar, Samasthana Vidwan, Ramnad (Copies available at No. 17, Tholasingaperumal Koil Street, Triplicane, Madras—Price Re. 1).
   நல்லிசைப்புலமை மெல்லியலார்கள்.

For Non-detailed Study.

1. Saiva Sikhamanigal Iruvar by S. Somasundara Desikar, Tamil Lexicon Office, "Limbdi Gardens", Royapettah, Madras.
   சைவசிகாமணிகள் இருவர்
2. Jnanasambandhar by Toluvur Velayudha Mudaliyar. (T. P. Alagan, Perambur, Madras).
   ஞானசம்பந்தர்.

Drama.—

Manonmaniyam, Acts IV and V (Saivasiddhanta Works Publishing Society, Coral Merchant Street, Madras).
மனோன்மணீயம், அங்கம் IV and V.

PART III—GROUP (V).

Poetry.—

University B.A. Selections, Vol. I

1. Perumpanatruppadai.
2. Kalittokai.
3. Purananuru, pages 97—126.
4. Tirukkural, Chapters 1—10.
5. Manimekalai, pages 302—322.

University B. A. Selections, Vol. II.

6. Kambaramayanam, Ayodhyakandam.
7. Tiruttondar Puranam, Karaikkalammaiyar.
8. Tirukkovaiyar.

Prose.—

1. Tamil Varalaru by K. S. Srinivasa Pillai, Parts I and II.
2. Paranar by Venkatarajulu Reddiyar. (University Publication—C. Coomaraswami Naidu & Sons, G. T., Madras).

Grammar.—

Nannul: Sankaranamacchivayappulavar Urai.

Yappilakkana Vina Vidai by Visakaperumal Ayyar. (Ripon Press, Madras).

TELUGU.

1936.

PART II.

Old Poetry.—

1. Bharatamu — Tikkanna — Udyogaparvamu—Sreekrishnarayabaramu, Canto 3, the whole.
2. Jaimini Bharathamu by Pillalamarri Pinavirabhadrudu—Aswamedhaparvamu — Chandrahasacharitramu.
3. Sameerakumaravijayamu by Pushpagiri Timmanna, Canto vi—Garudagarvabhangamu, verses 107 to 234.

Modern Poetry.—

1. Sarojini by Ananthapantula Venkateswarulu, first 100 *verses* only. (Copies available with Dr. Ananthapantula Narayanamurthi, L.M.P., Parvatipuram).
2. Andhrameghasandesamu — Uttarameghamu — Translated by G. V. Subbaramayya Garu, Lecturer, V. R. College, Nellore.

Drama.—

Malavikagnimitramu by Vedam Venkataraya Sastri Garu.

Detailed Prose.—

1. Raghuvamsamu by Bandaru Tammayya, First Part 132 pages. (Copies available with the Author, Amalapuram).
2. Hindujeevanapathamu by Kamaraju Hanumantha Rao, from page 89 till the end. Third and Fourth Parts. [Copies available with Prakpratichi Granthanilayamu (East and West Series), Rajahmundry].
3. Kalidasuni Kalaprathibhalu by K. Ramakrishnayya Garu, 'Limbdi Gardens,' Peter's Road, Royapettah, Madras.

Non-detailed Prose.—

Baladitya by V. Satyanarayanamurthi. (Published by Vavilla & Sons, Madras).

Grammar.—

Balavyakaranamu.

PART III—GROUP (v).

The same as for 1935, (i.e.).—

Poetry (Old).—

Kalapurnodayamu by Pingali Sooranna, Canto iv, Verses 1 to 151.

Uttara Harivamsamu by Nachana Somanatha, Canto ii, the whole.

Harischandra Nalopakhyanamu by Ramarajabhushana, Canto iii, Verses 67.

Accha Thenugu Ramayanamu by Kuchimanchi Timmakavi —Kishkindhakandamu.

Raghavapandaviyamu - Canto iv with Bhavaprakasika by Pandit E. Bhashyakacharyulu. (Publishers, Ananda Press, Madras).

Poetry (Modern).—

Selections from Jeevayatra, by Vidvan K. Kanakamma Garu, 100 Verses from Verse 150 to the end, excluding Sanskrit Slokas, Price, Re. 0-8-0. Available with the Authoress, Queen Mary's College, Triplicane, Madras.

Madhuravijayamu by Thadepalli Raghavanarayana Sastri, First Canto, excluding the first 33 stanzas. Available at Mudigonda Nagalinga Sastri, Ramalingeswarapeta, Tenali. Price, Re. 0-10-0.

Drama.—

Ascharyachudamani by Kaviraju Viswanatha Sarma, Telugu Pandit, M. R. College, Vizianagaram. Available from the Author. Price, Re. 1.

Savitri Chitraswamu by Dharmavaram Krishnamachari Garu, (Publishers—Rama Vilas Press, Bellary).

Prose—Detailed.—

Harsha Charitra by Mr. M. V. Ramanacharyulu—First three Chapters. (Copies available with the Author, Sanskrit Pandit, Maharaja's College, Vizianagram).

Sāraswatopanyasamulu, by Rallapalli Ananthakrishna Sarma, Telugu Pandit, Maharaja's College, Mysore. (Available with the Author. Price, Re. 0-12-0).

Bhagavathamu by Sataganthan Venkataranga Sastri Garu, Skandas 7 and 8 only, pages 130, (Vavilla Ramaswami Sastrulu & Sons, Madras).

Prose—Non-detailed.—

Manassariramulapai Parisaramula Prabhavamu by P. Jagannadhaswami, M.A., L.T., (Available with the Andhra Patrika Press, Madras).

Amaravatistupamulu and other Essays by M. Somasekhara Sarma—(Author, 2|19, Audiappa Mudali Street, Purasawalkam, Madras, Price, Re. 0-8-0).

Inscriptions.—

1. Bezwada Yuddha Malluni Sasanamu.
2. Chalukya Sasanamu—published in Bharati (Andhra Patrika Office). (Same as Addanki Sasanamu published with notes by Mr. M. Somasekhara Sarma in the issue of Bharati for March 1928).

Literary Criticism.—

1. Andhra Kavitva Charitramu by Basavaraju Venkatappa Rao Garu. (Available with Messrs. Vavilla Ramaswami Sastrulu & Sons, Madras).
2. Kalidasuni Kalapratibhalu by K. Ramakrishnayya Garu, Senior Lecturer in Telugu, Limbdi Gardens, Royapettah, Madras.
3. Vimarsatharangini by N. Veeraraju Garu, Pithapuram.
4. Andhra Bharata Kavita Vimarsanamu by K. Ramakrishnayya Garu, Chapters 3 and 4. (The Author, Limbdi Gardens, Royapettah, Madras).

History of Literature.—

1. Andhra Vangmaya Charitra—by Vanguri Subba Rao.
2. Andhra Kavulacharitra—by K. Veerasalingam—Part I (Revised) and Part II, (Hitakarini Samaj, Rajahmundry).

History of Language.—

Bashothpatthi Kramamu—by K. Ramakrishnayya, Limbdi Gardens, Royapettah, Madras.

Grammar, Prosody and Poetics.—

1. Bala Vyakaranamu—by Chinnaya Suri.
2. Prouda Vyakaranamu—by B. Sitaramacharlu.

3. Appa Kaviyamu—Cantos III and IV.
4. Narasabhupaliyamu—by Bhattumurti.
5. Dasarupakamū by Malladi Suryanarayana Sastri, Telugu Pandit, College of Arts, Waltair.
6. Chandas Sastramu, by T. Rajagopala Rao, Christian College, Madras.

Philology.—

1. Introduction to Dravidian Philology by Dr. C. Narayana Rao.
2. Dravida Bhashalu by Vidwan G. J. Somayaji, M.A., L.T., Andhra University, Waltair.

Related subjects.—

The same as for 1935.

KANARESE.

1936.

PART II.

Detailed Study.—

1. Kabbigara Kava by Andayya—Stanzas 1—99. (Karnataka Kavya Kalanidhi Office, Mysore).
2. Jagannatha Vijaya by Rudrabhatta—Aswasa 9. (Government Oriental Library, Mysore).
3. Sankshipta Rajasekhara Vilasa, edited by T. Channappa——Aswasa 3. (Tagore Co., Bangalore City).
4. Ramaswamedha by Muddana—Aswasas 8, 9 and 10. (Karnataka Kavya Kalanidhi Office, Mysore).
5. Veni Samhara Nataka by Jayarayacharya (J. Raghupatyacharya, Vonti Koppal, Mysore).
6. Sasana Padya Manjari, edited by R. A. Narasimhacharya—. Numbers 87, 124, 125 (Stanzas 625 to 640, both inclusive), 129, 241 and 268. (The Author, Malleswaram, Bangalore).
7. Aryaka, by S. G. Sastri. (B. S. Ayyangar, Printer and Publisher, Manavarthepet, Bangalore City).
8. Karnataka Kavicharitre, Vol. II, by R. A. Narasimhacharya —Introduction and Poets of the 15th Century. (The Author, Malleswaram, Bangalore).
9. Halagannada Vyakarana Sutragalu. (Basel Mission Book Depot, Mangalore).

Non-detailed study.—

1. Namma Kathegalu. (Bala Sahitya Mandala, Mangalore).
2. Mayoora by Devudu Narasimha Sastri, M.A., (Satya Shodhana Book Depot, Fort, Bangalore City).
3. Ramachariya Nenapu by P. T. Narasimhachar. (Ram Mohan Company, Balepet, Bangalore City).

FOR B.A. DEGREE EXAMINATION, 1936.

PART III—GROUP (v).

The same as for 1935, (i.e.).—

(i) Selections published by the University—Volume II. Chandraprabha Purana (pp. 103 to 146).

(ii) Ramashwamedha (modernized), Part I, by M. Shankara Bhatta, (Bala Sahitya Mandala, Mangalore).

(iii) Viddyullata by N. Tirumalamma. (Sati Hitaishini Granthamala Office, Nanjangud).

(iv) Sakuntala Nataka by Basappa Sastri. (Pandit B. Mahadeva Sastri, Kerlapur P. O., Hassan Dt.).

(v) Kavi Charite by Rao Bahadur R. Narasimhachar, M.A., Volume II, Introduction and Poets of the 16th Century, (Author, Malleshwaram, Bangalore).

(vi) Sasana Padyamanjari by Rao Bahadur R. Narasimhachar, M.A., Malleshwaram, Bangalore.

(vii) Apratima Vira Charitre by Tirumalarya. (Kavya Kalanidhi Office, Mysore).

(viii) Sringara Ratnakara by Kavi Kama. (Kavya Kalanidhi Office, Mysore).

(x) Sabdamani Darpana by Kesiraja. (B. E. M. Book Depot, Mangalore).

(xi) Chhandassu by Nagavarma. (B. E. M. Book Depot, Mangalore).

(xii) Primrosa Vijaya by S. G. Govindaraja Ayyangar. (M. S. Rao & Co., Avenue Road, Bangalore).

MALAYALAM.

1936.

PART II.

Non-detailed Study (Composition and Translation).—

1. Harischandran—By Kainikkara Kumara Pillai, B.A., L.T. (S. R. V. Press, Quilon).
2. Rajasthāna Pushpam—By Pallath I. Raman, (Kohinoor Publishing House, Ponnani, S. Malabar).

Detailed study.—

Poetry.—

1. Bhāratham.—Drōna Parvam—By Ezuthachan (Any Press).
2. Bhakthi Deepika—By Ullur S. Parameswara Ayyar, M.A., B.L., (B. V. Book Depot, Trivandrum).
3. Sōdōm Dahanam—Ch. 19 of Veda Viharam—Lines 105 to 604—By K. V. Simon, Edayaranmula, Kozhencherry, Travancore.

Drama.—

Vichitra Vijayam—By N. Kumaran Asan (Mrs. N. K. Asan, Thonnakkal, Murukkumpuzha, Travancore).

Prose.—

1. Kunçan Nambiar—By M. R. Balakrishna Warrier, M.A., L.T., College of Arts, Trivandrum, (S. T. Reddiar & Sons, V. V. Press, Trivandrum).
2. Indulēkha—By O. Chandu Menon (V. V. Press, Trivandrum).

PART III—GROUP (v).

Modern Poetry.—

1. Karna Parvam—Bhāratham (Ezuthachan).
2. Kālakēyavadham—Kathakali—By Kottayath Thampuran. Edited by P. Krishnan Nair, (Siromani), 'Limbdi Gardens." Royapettah, Madras.
3. Komappan and Saktan Thampuran from Nālu .Basha Kāvyangal — By Kundur Narayana Menon, B.A., (Kamalalaya Printing Works, Ottapalam).

Prose.—

1. Ātmasamarpanam—By R. Narayana Panikkar, B.A., L.T., (S. T. Reddiyar & Sons, V. V. Press, Branch, Trivandrum).
2. Sākuntalam (Gadyam)—By Ayilyam Thirunal, G.C.S.I., Maharajah of Travancore. (S. Shanmuga Pillai, Vallivilasam Printing Press, Puthenchantai, Trivandrum).

Old Poetry.—

The same as for 1935, (i.e.).—

1. Rama Charitram—1 to 5 Patalams. University Selections for B.A., Part I.
2. Kannassa Ramayanam—Balakandam—1 to 96 Slokas, edited by K. Parameswaran Pillai, M.A., Nantiyar Veetu, Thampanoor, Trivandrum.
3. Krishnagatha—Kamsa Sadgathi—Mangalodayam Press, Trichur.
4. Ramayana Prabantham—Khara Vadham and Sugreeva Sankhyam. Trivandrum Malayalam Series—Government Press, Trivandrum.

RELATED SUBJECT.

DRAVIDIAN LANGUAGES.

Vide page 443.

APPENDIX IV

B.A. (HONOURS) DEGREE EXAMINATION SYLLABUS.

Branch (i)—Mathematics—B.A. (Hons.)

It is hereby notified that the following is the list of subjects from which special subjects are to be selected under each of the divisions specified in Chapter XL, Regulation 15 (i) (c).

Note.—The Board of Studies may from time to time add to the list or exclude subjects from the list, either temporarily or permanently.

Two of the following subjects, at least one of which shall be from numbers 1 to 5:—

1. *Geometry*—
   (1) Advanced Projective Geometry.
   (2) Non-Euclidian Geometry.
   (3) Higher Plane Curves.
   (4) Differential Geometry.

2. *Algebra*—
   (1) Finite Groups and Substitutions.
   (2) Invariants.
   (3) Statistics including Probabilities and Errors of Observation.

3. *General Theory of Functions*—
   (1) Functions of real variables.
   (2) Theory of Uniform Functions of a complex variable and integral functions.
   (3) Function of a complex variable after Riemann including Riemann's surfaces.

4. *Differential Equations*—
   (1) Linear Differential Equations.
   (2) Partial Differential Equations.

5. *Special Functions*—
   (1) Elliptic Functions.
   (2) Functions of Harmonic Analysis.

6. *Dynamics.*
   (1) Advanced Rigid Dynamics.
   (2) Theoretical Dynamics.

7. *The Potentials.*

8. *Elasticity.*

9. *Hydrodynamics and Sound.*
   (1) Irrotational motion in liquids.
   (2) Propagation of Sound in gases.

(1) GEOMETRY.

Including Pure Geometry and Analytical Geometry of two and three Dimensions:—

(a) Geometry of Two Dimensions.

The metrical properties of the point, the straight line, the circle, the parabola, the ellipse and the hyperbola treated by pure geometric methods, by means of Cartesian co-ordinates, polar co-ordinates and homogeneous co-ordinates (chiefly areal and trilinear).

Cross Ratios, Harmonic Section, Involution ranges and pencils. Perspective. Principle of duality. Reciprocation with respect to conics. Line Co-ordinates, application of tangential equations to conics. The method of projection, considered from the pure geometric point of view, its analytic basis. The principle of continuity, imaginary points and lines. Projective properties of conics. Simple geometric applications of invariants of conics.

(b) Geometry of Three Dimensions

The line, the plane and the regular solids treated by pure geometrical methods.

Analytical Geometry of three dimensions with Cartesian Co-ordinates.—The Straight line, the Plane, the Sphere the Cone, the Quadrics, their plane sections and generating lines. Confocal Quadrics. The reduction of the general equation of the second degree.

A. Books for Study—

1. Askwith: Pure Geometry.
2. W. P. Milne: Projective Geometry.
3. Smith: Conic Sections.
4. Askwith: Analytical Geometry of the Conic Sections.
5. C. Smith: Solid Geometry.
6. R. J. T. Bell: Co-ordinate Geometry of three Dimensions.
7. Hall and Stevens: School Geometry, Part VI.
8. Nixon: Geometry in space.

B. Books for Reference—

1. C. V. Durell: Plane Geometry for Advanced Students.
2. J. W. Russell: Pure Geometry.
3. Milne: Homogeneous Co ordinates.
4. Salmon: Conic Sections.
5. Frost: Solid Geometry.

(2) ALGEBRA AND THEORY OF EQUATIONS.

Inequalities and Limits. Convergence and divergence of Series and of Infinite Products. Binomial and Exponential Theorems. Logarithmic series. Summation of series. Continued fractions, simple and recurring; indeterminate equations. Theory of numbers. Elementary propositions in Probability. (Standard as in C. Smith's Algebra).

Theory of equations.—Relations between the roots and coefficient. Symmetric functions of the roots, transformation of equations; binomal and reciprocal equations; properties of derived functions. Rolle's theorem. Location of the roots. Sturm's theorem. Algebraical solution of cubic and biquadratic equations: solution of numerical equations. Horner's method. Graphical solution of equations. Determinants and Elimination. (Standard as in Burnside and Panton).

(3) PLANE TRIGONOMETRY.

Fuller treatment of the B.A. Course. Properties of triangles and quadrilaterals. Complex Numbers. De Moivre's Theorem and Applications. Factorisation, Infinite series, convergence of complex series. The Power series. Trigonometrical expansions. Determination of π. Summation of Series. Elementary properties of hyperbolic functions. Convergency of Infinite Products. Expression for the sine and cosine as infinite products.

(Standard as in Loney's Trigonometry and treatment as in Hobson's Plane Trigonometry.)

(4) MATHEMATICAL ANALYSIS.

Including the Differential and Integral Calculus and Differential Equations:—

1. *Preliminary*

Irrational numbers, simple notions as to their genesis obtained from the intuitional properties of the straight line. The linear continuum. Infinite sequences, limiting points, upper and lower limits. General principle of convergence. General idea of a function of a real variable, the elementary functions and their graphical treatment. Limits of functions of a continuous variable, continuity of functions, properties of continuous functions. Inverse functions, proof of existence when original function is steadily increasing or decreasing.

2. *Differential and Integral Calculus.*

Functions of one real variable. Derivatives, general theorems and rules for differentiation, repeated differentiation, Leibnitz's theorem, general theorems concerning derivatives. Rolle's theorem, mean value theorem. Geometrical applications of derivatives. Integration as the operation inverse to differentiation, standard forms and processes of integration. The general

mean value theorem of the differential calculus, applications to maxima and minima, to evaluation of limits, and to contact of plane curves. Envelopes, Curvature. Taylor's series, convergence of the standard Taylor series. Integration of bounded functions according to Riemann, integrability of continuous functions and monotonic functions, the fundamental theorem of the integral calculus. The first and second mean value theorems of the integral calculus. Functions defined by definite integrals, their continuity, differentiation and integration. Applications of definite integrals.

Functions of several real variables, continuity, Implicit functions, idea of their existence (without proof). Partial derivatives, differentiation of implicit functions and composite functions, Euler's theorem on homogeneous functions, Taylor's theorem for functions of several variables, simple applications to maxima and minima, and to the finding of singular points and asymptotes of algebraic curves. Double integrals, line integrals, surface integrals, and triple integrals—evaluation in simple cases. Green's theorem. Geometric applications of multiple integrals.

Simple instance of functions of a complex variable. Cauchy's theorem (proof by use of Green's theorem).

3. *Infinite Series and Infinite Integrals.*

Series of positive terms. Simpler tests of convergence. Series of positive and negative terms, Abel's and Dirichlet's tests. Absolute convergence, effect of change of order of terms on sum. Absolutely convergent double series. Multiplication of absolutely convergent series.

Series of variable terms. Uniform Convergence, Weierstrass's M-test, chief properties of uniformly convergent series as regards continuity, differentiation and integration. Fundamental properties of power series, standard power series. Fourier series of bounded functions with a finite number of maxima and minima and a finite number of discontinuities. Infinite products, the standard infinite products.

Infinite integrals. Functions defined by infinite integrals. Uniformly convergent integrals, their continuity, sufficient conditions for differentiating and integrating under the sign of integration, simple applications to the evaluation of infinite integrals.

4. *Differential Equations*

(A) Ordinary Differential Equations involving two variables.—

Formation of differential equations, character of solutions, geometrical meaning of differential equations.

Equations of first order.—Variables separable, linear equation. Bernoulli's equation, homogeneous equation, one variable absent, $Mdx+Ndy=0$, integrating factors and their discovery in the simpler cases. Equations of nth degree that can be resolved into component equations of 1st degree, equations solvable for x or for y, Clairaut's form. Singular solutions, the p- and c- discriminants, geometric interpretation.

Linear equations with constant co-efficients; Euler's linear equations. Exact equations.

The equations $y(x)=f(x)$, $y(n)=f(y)$, $y(n)=f\{y^{(n-1)}\}$, $y(n)=f\{y^{(n-2)}\}$ Depression of order when one variable is absent.

Equations of second order.—The complete solution in terms of known integral relation between integrals.

Geometric applications ; finding of curves with given properties, trajectories.

(*B*) *Ordinary Differential Equations involving more than two variables* :—

Simultaneous linear differential equations, the equation $\frac{dx}{P}=\frac{dy}{Q}=\frac{dz}{R}$ and its geometrical interpretation. Total differential equations (with three variables), the condition of integrability, geometric interpretation of the equation and its solution.

(*C*) *Partial Differential Equations* :—

Their derivation, classification of integrals of a partial differential equation, geometric interpretation. Lagrange's equation $Pp+Qq=R$, Charpit's method. The standard forms $\psi(p, q)=0$, $\psi(z, p, q)=0$, $\phi(x, p)=\psi(y, q)$ and $z=px+qy+\phi(p, q)$.

Standard as in the following books:—

1. H. Lamb: Infinitesimal Calculus.
2. Gibson: Elementary Treatise on the Calculus.
3. Murray: Introductory Course in Differential Equations.
4. Carslaw: Fourier Series.
5. Edwards: Differential Calculus.

***Books for Reference*—**

1. G. H. Hardy: Pure Mathematics.
2. Goursat-Hedrick: Mathematical Analysis, Vol. I.
3. Wilson: Advanced Calculus.
4. Chrystal: Algebra, Vol. II.
5. Bromwich: Infinite Series.
6. Forsyth: Treatise on Differential Equations.
7. Boole: Differential Equations.

8. Williamson: Differential Calculus and Integral Calculus.
9. Jordan: Cours d'Analyse.
10. Picard: Traite d'Analyse.
11. Piaggio: Differential Equations.

(5) DYNAMICS OF PARTICLE.

Preliminary

Velocity and acceleration, relative motion, angular velocity, laws of motion, impulsive forces, units.

Rectilinear Motion.

Equations of motion, simple harmonic motion, constant disturbing force, periodic disturbing force, damped and forced oscillations: various laws of resistance.

Motion in two Dimensions

(1) *Cartesian Co-ordinates.*—Composition of simple harmonic motions, motion of a projectile in vacuum, in a resisting medium, different laws of resistance. Equation of energy. Rotation axes.

(2) *Polar Co-ordinates.*—Velocity and acceleration in polar co-ordinates. Central forces; differential equation of orbit, orbits for various laws of force. Disturbed circular orbit; apses. Law of the inverse square; construction of orbit; hodograph, time of describing an arc; Kepler's law, correction to 3rd law; perturbations.

(3) *Constrained Motion.*—Tangential and normal accelerations. Motion on a fixed smooth or rough curve. Motion in a smooth or rough cycloid, motion in a circle, time of describing an arc, series for time of oscillation; small oscillations of simple pendulum under resistance proportional to square of velocity. Motion on a revolving curve; motion of a particle in a revolving tube.

(4) *Motion of two or more Particles.*—Principles of conservation of energy and of angular momentum. Two particles connected by a string passing over a pulley. Impulses, motion of a chain, motion of varying mass.

(6) DYNAMICS OF A RIGID BODY.

Moments and products of inertia; momental ellipsoid, momental ellipse, equimomental systems. Principal axes. D'Alembert's principle, general equations of motion. Independence of translation and rotation. Impulsive forces.

Motion about a fixed axis.—Fundamental theorem. The compound pendulum, centre of oscillation. Torsional oscillations, bifilar suspension. Pressures on the fixed axis, bodies, symmetrical and not symmetrical. The ballistic pendulum. Impulsive forces, centre of percussion.

Motion in two Dimensions.—Finite forces. General principles of conservation of energy and of linear and angular momentum. Systems with one degree of freedom, oscillations about equilibrium. Impulsive forces, impact of a rotating sphere on the ground. Lagrange's equations, systems of two degrees of freedom, double pendulum, oscillations about equilibrium.

Standard as in the following books:—

Lamb's Dynamics.

Loney's Dynamics.

Besant and Ramsay's Dynamics.

Williamson and Tarleton's Dynamics.

Books for Reference—

Love's Theoretical Mechanics.

Routh's Dynamics of a Particle.

Tait and Steel's Dynamics.

Routh's Elementary Rigid Dynamics.

(7) STATICS.

Forces at a point.—Parallelogram of forces. Parallelepiped of forces. Geometric and analytical reduction of forces acting at a point. Conditions of equilibrium of such forces. Friction. Equilibrium of a particle on smooth and rough curves and surfaces.

Forces in one plane.—Parallel forces. Theory of moments of forces and of couples; reduction of coplanar forces and conditions of equilibrium of such forces. Actions at smooth and rough hinges and joints. Principle of virtual work as applied to coplanar forces. Astatic equilibrium.

Graphical Statics.—*Centres of gravity of arc,* plane area, surface, and solid. Stable and unstable equilibrium. Machines with and without friction.

Forces in three dimensions acting on a rigid body.—Reduction of such forces to a force and a couple; General conditions of equilibrium; Principle of work applied to any system of forces: Work or Potential function. Stable and unstable equilibrium. Poinsot's central axis; wrench, screw; resultant

wrench of two given wrenches. The cylindroid. Reciprocal screws. Reduction of any system to the forces. Conjugate lines. Nul lines and nul planes.

Equilibrium of strings.—General conditions of equilibrium of an inextensible string. The common catenary, the parabola of suspension bridge, the catenary of uniform strength; strings on smooth surfaces and curves, strings on rough curves; strings under central forces, extensible string.

Standard as in—

Loney's Statics.

Books for reference—

Minchin's Statics, Vol. I and Vol. II, Chapters XIII—XV.

Routh's Analytical Statics, Vol. I.

(8) HYDROSTATICS.

Definitions of 'perfect fluid' and 'pressure at a point.' Equality of pressure at a point in all directions: general conditions of equilibrium of a fluid and of a liquid in particular. Fluid at rest under the action of (1) gravity, (2) central forces. Rotating liquid.

Resultant thrusts of fluid on plane areas. Centre of pressure. Thrust of liquid on curved surfaces.

General condition of equilibrium of a floating body. Surfaces of buoyancy and flotation. Positions of equilibrium. Potential energy stored up by the immersion of a solid.

Stable and unstable equilibrium of a floating body. Metacentre; expression for metacentric height. Experimental determination of metacentric height; stability of equilibrium (1) of a hollow vessel containing a liquid floating in another liquid; (2) of bodies floating under constraint; (3) of bodies floating in heterogenous liquid (simple cases only); theory of stability based on the principle of energy.

Standard as in—

Besant and Ramsay's Hydrostatics, Chapters I—V.

Minchin's Hydrostatics excepting Chapter on Surface tension.

Books for Reference—

Greenhill's Hydrostatics.

(9) ASTRONOMY—*General and Elementary Spherical.*
Vide pages 552 and 553.

(10) STATISTICS.

including Probabilities and Errors of Observation:—

PROBABILITIES *a priori*:—

Mathematical definition: elementary theorems and examples. Addition and multiplication of probabilities, with examples. Binomial distribution and the most probable event. Mathematical expectation.

A posteriori or Inverse:—Bayes's Rule and its criticisms.

THEORY OF VARIABLES (*a*) *Symmetrical Frequency distribution.*—

Errors, different kinds, nature of accidental errors.

Gauss's Law of Error; its proof based on the nature of accidental error. Error curve.

The law of least squares and deduction of the principle of arithmetical mean. Proof of law of error based on the principle of arithmetical mean. The median and the law of error based on the median. Application to one unknown; measure of precision, mean square error, probable error. Observations of different weights. Adjustment of indirect observations involving one unknown and more than one unknown. Normal equations, their formation and solution. Probable error of an observation of unit weight. Probable errors of unknowns and determination of their weights. Adjustment of conditioned observations. Rejection of observations.

(*b*) *Asymmetrical Frequency-distribution*—

The median, mode, standard deviation. Method of moments to derive a formula to fit a particular statistical experience. Sheppard's Corrections, Smoothing by (i) Summation Method, (ii) the Method of Least Squares (Criticism of its Defects) and (iii) Contiguous Arcs of High Order Parabola. Curve fitting. Generalised Normal Curves. (Pearson's curves). Goodness of Fit-Tables for P. and X. Skewness; Theory of Dispersion.

(*c*) *Frequency-distribution of two variables*—

Correlation and Contingency tables and their representation by surfaces. Correlation: regression: correlation coefficient and correlation ratio.

(*d*) *Frequency distribution of several variables*—Partial correlation. Multiple Correlation.

SAMPLING:—Normal correlation. (i) Calculation of Mean Values of Pab= $(x^a y^b)$ for Positive Integral values of *a* and *b;* (ii) Probable Errors of the Mean, the Standard Deviation and the Co-efficient of Correlation.

THEORY OF ATTRIBUTES:—Classification, consistency, association: partial association.

GENERAL STATISTICAL METHODS WITH ILLUSTRATIONS.

THE PRINCIPLES OF INDEX-NUMBER MAKING AND USING.

(*a*) *Books recommended for study*:—(1) Fisher: 'Theory of Probabilities.' (2) Chrystal: chapter on 'Probabilities' in his Algebra. (3) L. D. Weld: 'Theory of errors and least squares.' (4) David Brunt; 'Combination of observation.' (5) Udny Yule: 'Theory of Statistics.' (6) D. C. Jones's.' 'First Course in Statistics.' 'Frequency curves and Correlation.' (7) Bowley: 'Elements of Statistics.'

(*b*) *Books for Reference.*—(1) Elderton. (2) Secrest: 'Statistical Methods.' (3) King: 'Elements of Statistical Method.' (4) Karl Pearson's memoirs in 'Biometrika,' 'Phil.—Trans.' and 'Phil.—Mag.' (5) The article on Probabilities in the 'Encyclopaedia Britannica.'

(11) THEORY OF UNIFORM FUNCTIONS OF A COMPLEX VARIABLE AND INTEGRAL FUNCTIONS.

General Theory.

Complex numbers, their geometric representation. DeMoivre's Theorem. Definition of a function of a complex variable, uniformity and multiformity of functions. Analytic functions, the Cauchy-Riemann definition, the differential equations satisfied by the real and imaginary parts of an analytic function. Conformal representation of one plane on another complete discussion of the transformations

$$u=\frac{az+b}{cz+d}, \quad u=z^n \left(n \text{ positive integer}\right), \quad u=e^z \left(\text{with simple variations.}\right)$$

Cauchy's Theorem for simple contours and functions which are analytic inside and on the contour. The fundamental formula $f(x)=\frac{1}{2\pi i}\int\frac{f(z)}{z-x}dz$. Taylor's series, Liouville's theorem. Laurent's expansion. Point at infinity, development in its domain. Weierstrass's theorem on the asymptotic behaviour in the domain of an isolated essential singularity. Weierstrass's theorem on a series of analytic functions. Fundamental theorem on residues with simple applications, including evaluation of simple definite integrals.

Weierstrass's theorem on the infinite product expression for an integral function. Mittag-Leffler's theorem on the expression of a function with isolated singularities as a series of rational functions.

Simple periodic functions, expansion of an integral simple periodic function. The impossibility of a uniform analytic function having three independent periods. Elliptic functions, their

general properties about the sum of the residues, the number of zeros and the number of poles, the difference between the sum of the zeros and the sum of the poles in a parallelogram of periods; algebraic relation between elliptic functions of the same periods. The Weierstrassian function $P(u)$ and its fundamental properties.

The fundamental properties of power series of a complex variable, elements of an analytic function, the process of analytic continuation, Weierstrass's conception of an analytic function. Singular points, their place in the Weierstrassian Theory. Functions with natural boundaries, simple examples.

Integral Functions.

The Maximum Modulus Theorem.

Schwarz's Lemma.

Caratheodory's Inequality.

Definitions of: Order, Exponent of Convergence, Canonical Product, Genus.

The Function $n(r)$.

Hadamard's Factorization Theorem.

The order of a canonical product is equal to the exponent of convergence of its zeroes.

For any integral function, if the order is not an integer, the exponent of convergence is equal to the order.

Essay Applications.

The following books, in so far as they deal with the subject matter given in the syllabus, are recommended:—

A. Books for study:—

1. Goursat: Mathematical Analysis—Vol. II, Part I.
2. Borel: Lecons sur la Theorie des Fonctions entiers.
3. Watson: Complex Integration and Cauchy's Theorem.
4. McRobert: Theory of Functions.
5. Harkness and Morley: Introduction to the Theory of Analytic Functions.
6. Titchmarsh: The Theory of Functions.
7. P. Dienes: The Taylor Series.

B. Books for reference:—

1. Forsyth: Theory of Functions.
2. Whittaker and Watson: Modern Analysis.

(12) ORDINARY LINEAR DIFFERENTIAL EQUATIONS.

(A) *Elementary Methods of Integration.*—Equations of the first order, standard forms, Bernoulli's and Riccati's equations. Integrating factors. General linear equation of the *n*th order and properties, depression of order, adjoint equation. Special forms: with constant co-efficients, Euler's equation (only for two variables). Laplace's equation, exact differential equation. The general linear differential equation of the 2nd order; various methods of integration, normal form. Trajectories.

(B) *The Theory of Linear Differential Equations.*—Existence theorems. Equation of the first order, system of linear equations of the first order, homogeneous linear equation of the *n*th order. First integrals, Jacobi's multipliers. Fundamental systems of integrals, the $\Delta + \frown$ criterions. Regular integrals. Study of integrals near a singular point; form and properties, permutation of integrals. The fundamental equation: formal expression of the integrals when all the roots of the fundamental equation are distinct; expression in logarithmic form of the set of integrals corresponding to a repeated root of multiplicity. Fuchs's Theorem on the form of a homogenous linear equation having all its integrals regular near a singularity, and its converse. Frobenius's method of integration for equations of the 2nd order and application to Legendre's and Bessel's equations and to the equation of the hypergeometric series.

(C) *Higher methods of integration.*—Integration by series with simple applications to Legendre's equation. Bessel's equation, and the equation of the hypergeometric series. Solution by definite integrals of Laplace's equation and Bessel's equation. Systems of linear equations with constant variable co-efficients.

Standard to be found in:—

(A)	Forsyth's Treatise	Chapters II—IV
	Goursat	Chapters II—III
(B)	Forsyth's Theory, Vol. IV,	Chapter I nearly complete. Chapters II-III greatly restricted.
	Goursat	Chapters II-III
(C)	Forsyth's Treatise	Chapters V, VII and Chapter VIII restricted.
	Goursat	Chapter III.

Books recommended:—

A. R. Forsyth: (1) Treatise on Differential Equations.
(2) Theory of Differential Equations. Part III, Vol. IV.

Goursat's Mathematical Analysis, Vol. II, Part II (English Translation).

Jordan: Cours d' Analyse, Vol. III.

Laurent: Traite d' Analyse, Tome V.

Picard: Traite d' Analyse, Tome III.

Schlesinger: Handbuch der Theorie der linearen Differential gleichungen.

(13) HYDRODYNAMICS.

Text-Books recommended for Study.—

Ramsay's Hydro-Dynamics omitting the Chapters on "Vortex Motion", "Vibrations of Strings" and "Sound."

Branch II

PHILOSOPHY.

(Revised Regulations.)

1. General Psychology.

I. The scope, data and methods of Psychology.

General analysis of conscious processes into cognitive, **affective, and conative attitudes.**

Attention and Retention.

The Problem of Perception—Space, Time and Reality, **Causes of illusions.**

Ideational and Conceptual processes—Laws of neogenesis. **Language and concept formation. Relation between Meanings and Imagery. Psychology of Reasoning.**

Belief, Doubt, and Insight—Subjective and objective conditions producing belief.

Creative Imagination—conditions favourable for artistic and scientific invention.

Intelligence—its nature and measurement.

II. The Instinctive bases of human behaviour;

Emotions—Primary and Secondary, Bodily expressions of **emotions.**

Conditioning of emotional habits.

Development of Sentiments and Character.

The consciousness and growth of Self. Multiple personality.

Will; Choice; Inhibition; Decision; Resolve; Purpose,

III. The Body-Mind Relation.

Recent developments in systematic Psychologies:—

McDougall's Hormic Psychology.

Watson's School of Behaviourism.

Kohler's School of Gestalt or Configuration.

Text-Books recommended:—

1. Stout & Mace: A Manual of Psychology (Univ. Tutorial Press, 1929).
2. McDougall, W.: An Outline of Psychology (Methuen).

Books for consultation:—

1. Spearman, C.: The Nature of Intelligence and the Principles of Cognition (Macmillan).
2. Watson, J. B.: Psychology from the Behaviourist Standpoint.
3. Kohler, W.: Gestalt Psychology (Horace Liveright).
4. Robinson & Robinson: Readings in General Psychology.
5. Psychologies of 1930 (Clark Univ. Press).

2 (a) Syllabus in Logic and Theory of Knowledge.

(A) Knowledge and Thought

1. Postulates of knowledge, formal and material. Relation between logical theory and functional psychology, including a detailed consideration of the antecedent conditions, datum and content of Judgment. Unity and continuity of intellectual life.
2. The central function of the knowledge-process. Image, idea and meaning as factors in logical thought. Thought and language. Names and their import. Extension and intension of terms and the doctrine of their inverse relation.
3. Nature of judgment. The various theories of judgment. Unity of judgment. Varieties of judgment and their affiliation. Negation and disjunction.
4. Nature of inference. The various theories of inference. Induction. Enumerative induction and analogy.
5. Scientific induction by perceptive analysis. Value of Mill's Experimental Methods as methods of proof.
6. Scientific induction by hypothesis. Different forms of explanation.

7. The varieties of deductive inference. Relation between induction and deduction. Classification of the sciences. Fallacies.
8. Necessity in knowledge.

(B) Knowledge and Reality

Relation of knowledge to truth and reality. The criterion of truth. Error. Theories of the relativity of knowledge. The conception of degrees of truth and reality. The ideal of knowledge.

2 (b) Syllabus in Ethics.

1. Scope and method of Ethics. Relation to other sciences.
2. The beginnings and growth of morality—custom; conscience; systematic reflection.
3. Moral development of the individual—Childhood; adolescence; 'conversion'; 'temptation'; fixation of character. The moral and the religious life.
4. Psychology of Ethics—Analysis of the moral judgment: the situation which provokes it; the course it follows; the function of moral criteria. Motive; intention; character.
5. Constructive theory—Good and moral good. Obligation. Casuistry. The moral ideal. Discussion of the principal virtues. The moral significance of institutions: the family; the state; property and rights; punishment.
6. Critical study of ethical thought—General characteristics of Indian, Greek and European morality. Ethical systems—hedonistic, rationalistic, psychological, idealistic.
7. Metaphysics of Ethics—The ultimate validity of moral judgment. Free will and responsibility. Morality and religion.

3. Outlines of Indian Philosophy.

The Six Darśanas—60 lectures.

Upanishadic Basis.—

I. (1) Historical Antecedents—Mantras and Brāhmaṇas.

(2) Rise and development of the main currents of Philosophical thought in the Upanishads.

(3) Resultant Systems—How they emerged. Redactions in the form of Sūtras. Āstika and Nāstika Systems.

(A) Logical Prolegomena—Pramāṇas and Causality.

(B) A comparative and critical study.

Avedistic systems: (Materialistic and Rationalistic —Cārvāka, Jaina and Bauddha Systems).

Vedistic systems. (Supra-rationalistic systems).

II. *The Nyāya-Vaiśeṣika.*—

(a) Epistemology: Anyathā Khyāti. Rejection of other Khyātis. Pramāṇas. Vyāpti. Truth and Error.

(b) Theory of Causation.

(c) Theory of Reality.—Categories of the Vaiśeṣikas. Abhāva. External Relation.

(d) Cosmology. Theory of atoms. Conception of God as extra-cosmic and personal.

(e) Ethics and Religion. Nature of the Soul and its final destiny. Law of Karma. Tatvajñāna as the means to Moksha. Conception of Moksha.

III. *Sāṅkhya-Yoga.*—

(a) Epistemology. Pramāṇas.

(b) Theory of Causation. Satkārya-Vāda.

(c) Theory of Reality. Purusha and Prakṛti. Their name and relation. Plurality of Purushas.

(d) Cosmology. Pariṇāma. Evolution and Involution.

(e) Ethics and Religion. The Guṇas. Bandha and Moksha. The practice of Yoga.

The attitude of *Kapila* and *Patañjali* to the Existence of God. Conception of Kaivalya.

IV. *Pūrva-Mīmāṃsā.*—

(a) Epistemology. Bhaṭṭa's Viparītakhyāti. Prabhākara's Akhyāti. The Pramāṇas.

(b) Psychology. The theory of the Ātman.

(c) Ethics. Karma. Dharma and Adharma. The theory of apūrva.

V. (A) *Uttara-Mīmāṃsā or Vedānta.* Different schools of Vedānta.

(1) ***Advaita:***—

(a) Epistemology. Pramāṇas. Idealistic Theory of Knowledge. The doctrine of error. *Anirvacanīya-Khyāti. Adhyāsa.*

(b) Theory of Reality. Kinds of Reality: Prātibhāsika. Vyāvahārika and Pāramārthika. Brahman devoid of qualities, the only reality. Māyā, Avidyā, Īśvara, Jīva.

(c) Cosmology. Pariṇāma and Vivarta.

(d) Psychology. The nature of the Jīva. Avasthātraya.

(e) Ethics and Religion. Karma. Upāsanā & Jñana. Sādhana-Catuṣṭaya, as steps to moksha. Conception of moksha—Jīvanmukta

(2) *Viśiṣṭādvaita*:—

(a) Epistemology. Pramāṇas. Yathārtha—Khyāti. Nature of error.

(b) Theory of Reality. The absolute as Personal God. Cit and Acit. Apṛthaksiddha-Viśeshaṇa. Śarīra—Śarīri-Sambandha.

(c) Cosmology. Meaning of causality. Immanence and transcendence.

(d) Psychology. The nature of the Jīva as Aṇu. Its characteristics.

(e) Ethics and Religion. Bhakti and Prapatti, the direct means to Moksha. Nature of Mukti.

(3) *Dvaita*:—

The realistic view of knowledge. External relations. The absolute as Personal God. Cit and Acit. The theory of eternal distinction between Īśvara, Cit and Acit. The denial of immanence. Nature of Mukti.

(B) Comparative and critical review of the three schools of Vedānta.

VI. *Śaiva-Śiddhānta*. Āgamic basis.

(a) Epistemology. Truth and error. Satkāryavāda.

(b) Theory of Reality. The three ultimate realities. Pati, Paśu and Pāśam. Nature and characteristics. Śiva. Śakti.

(c) Cosmology. God as the efficient cause.

(d) Ethics and Religion. Means of attaining Moksha. Nature of Mukti.

4. European Philosophy from Descartes to Kant.

(COMPULSORY COURSE).

Brief characterisation of the Renascence. Influence on philosophy of the discovery of the laws of motion and of the scope for mathematical determination in experimental method. Descartes and the Method of Doubt. Dualism of Mind and matter. Proofs of the existence of God. Occasionalism. The concept of substance in Descartes and Spinoza. Attribute, mode and infinite mode. The principle that all determination is negation. Nature of Spinoza's Absolute, whether ultimate ground or maximal reality. His Parallelism. Necessity and freedom. Attitude to teleology. Intellectual love of God. Leibniz's attempt to find room for the many in the one by taking up relations into substance, and by substituting intension for extension. Pre-established Harmony. Non-contradiction and Sufficient Reason. Best of all possible worlds. Rationalism and Sensationism. Rise, development and bankruptcy of the 'Way of Ideas' in Locke, Berkeley and Hume. Difficulty of accounting for the

ideas of substance, relation, causality, and existence. Kant's demonstration that *a priori* synthesis is a pre-condition of all consciousness of objects. Consequent transformation of the Human scepticism into an empirical realism combined with transcendental idealism. Reality intellectually inscrutable, yet validly apprehended through the consciousness of duty. God, freedom and immortality as matter of rational certainty, though not of scientific knowledge.

5 & 6—A (b) i. Syllabus of Advaita Vedanta.

(*A*) *History* (15)—

I. Traces of Advaitic thought in the Ṛg Vēda, Maṇḍalas I and X.

II. Development of Advaitic thought in—

(*a*) The Upaniṣads—mainly (1) Bṛhadāraṇyaka—Yājñavalkya's discourses; (2) Chāndogya—discourses addressed to Śvetaketu and Indra, also Śāṇḍilya, Upakośala, Bhūma and Dahara Vidyās; (3) Taittirīya; (4) Kena; and (5) Māṇḍūkya .. (3)

(*b*) Brahma-Sūtras, esp. I i, 1 to 9; II i, 14 and II 3, 50; III 2, 3 and III 2, 22.

(*c*) Bhagavad-Gītā, esp. chapters ii, v, xiii and xviii .. (3)

(*d*) Viṣṇu Purāna (chiefly monistic extracts considered in the Srī Bhāṣya) and Śrīmad-Bhāgavata (Skandhas x and xi) .. (1)

III. First systematic formulation of Advaita doctrine in Gauḍapāda's Māṇḍukyakārikās .. (3)

IV. Classical exposition of Advaita doctrine in Śaṅkara's work :

(*a*) Bhāṣya on Brahma-Sūtras—esp. reference to section II (*b*) and Sūtra IV, 3, 14.

(*b*) Bhāṣya on Bṛhadāraṇyaka and Chāndōgya (select passages).

(*c*) Vivēkacūḍāmaṇi, Ātmabodha and Upadēśa-Sāhasrī .. (2)

V. Rise of divergent views within the fold of Advaita.

Main topics of interest.

(*a*) Ajñāna as positive (bhāva-rūpa).

(*b*) Ekajiva-vāda and Nānājiva-vāda.

(*c*) Dṛṣti-Sṛṣti-vāda and Pratikarma-vyavastha.

(*d*) Śābdāparōkṣa and Akhaṇḍārtha doctrines.

VI. Controversy with other systems—as in Madhusūdana's Advaita Siddhi .. (1)

(*B*) *Exposition* (25)—

I. Relation to other Eastern systems (Buddhism, Sānkhya, etc.) *Cf.* Brahma-Sūtra Śaṅkara Bhāṣya, II. 2. Relative unimportance of affinities with Western systems (Idealism, Pantheism and Monism) .. (3)

II. Theory of knowledge—

(*a*) The Pramāṇas or means of knowledge—importance of Śabda—Parā and Aparā Vidyās—nature of Jñāna and its relation to Antaḥkaraṇa and vṛtti—Theory of pratyakṣa—intuition and inference (pratyakṣa and parōkṣa) .. (3)

(*b*) Truth and Reality and the doctrine of three kinds of Reality (sattātraya) .. (1)

(*c*) Nature of Adhyāsa and theory of error (anirvacanīyakhyāti) .. (3)

III. Metaphysics—

(*a*) Nature of Brahman—proofs of his existence—categories of cause and substance—transcendence (neti-neti) and immanence (antaryāmitva)—saguṇa and nirguṇa vāda .. (3)

(*b*) Nature of Jīvatman—plurality of jīvas—their respective avidyā, karma and upādhi—nature and proof of the identity of Brahman and Ātman—bimba-pratibimba-vadā and avaccheda-vāda. .. (2)

(*c*) Nature of prapañca—theory of abhinnanimittōpādāna — parināmavāda and vivarta-vāda — doctrine of māyā; its history and proof; its relation to time, space and causality .. (2)

IV. Ethics—

(*a*) Nature of the highest good (puruṣārtha)—mukti or complete freedom from māyā or avidyā—beyond good and evil—free from activity—positive aspects of mukti—saccidānanda—Jīvanmukti and vidēhamukti .. (2)

(*b*) Means of realization (sādhana)—vidyā the one means—value of such other means as karma, śamadamādi and upāsanā—call for divine grace .. (3)

(*c*) Advaita and social service (lokasaṅgrahā). (1)

(*d*) The ideal and the real—metaphysical warrant of moral endeavour—problem of free-will—morālity and religion .. (2)

(C) *Criticism—in the light of other systems, Eastern and Western* .. (20)

I. Criticism of Māyā or mithyātva—charge of acosmism .. (2)

II. Criticism of anirvācyatva or transcendence—charges of agnosticism and mysticism .. (2)

III. Criticism of svaprakāśatva or self-knowability—charge of subjectivism .. (1)

IV. Criticism of nirguṇa vāda—charge of absolutism .. (1)

V. Criticism of abhēda vāda—charge of abstract identity .. .. (1)

VI. Criticism of jīvabrahmaikya—charge of atheism and solipsism .. (3)

VII. Criticism of jñānasādhana or the subordination of both *bhakti* and *karma* to jñana—charge of intellectualism .. (4)

VIII. Criticism of karmasaṃnyāsa—charges of renunciation and quietism .. (2)

IX. Criticism of kaivalya as a goal—charges of moral stultification and pessimism .. (2)

X. Criticism of Ātmarati—charge of egoism .. (1)

NOTE.—*The figures in brackets are offered as an approximate indication of the number of days which, in a course extending over 60 lectures, might suitably be given to the various sections and sub-sections specified.*

5 & 6—A (b) ii. Syllabus in Saiva Siddhanta.

I. *History*—

A. Trace of Śaivaism in the Rg Veda, the Yajur Veda and the Atharva Veda. The ideas of *Rudra-Paśupati*, and *Stampa*-worship.

B. (i) Development of Siddhāntic thought or theism in—

(a) The Upaniṣads, especially Śvetāsvatara.

(b) The Purānas, mainly the Śaivite Purāṇas like Śivamahāpurāṇa, Skānda and Vāyu.

(c) Itihāsas including the Gītā.

(d) Formulation of the system as indicated in the Bhāṣya on the Brahma Sūtras by Nīlakaṇṭa Śīvācārya.

(e) Kashmir Śaivism—the development of the Pratyabhijñā system.

(ii) Ancient Tamil literature.

(a) Traces of Śaivite thought in Tolkāppiyam, Tiruvalluvar and Saṅgam literature.

(*b*) Growth of devotional literature in the Jaina and Buddhistic period. The rise of the Samayācāryas.

(*c*) Rise of modern Śaivism: The Santānācāryas. Systematization of worship in the Agamas.

The fusion of the divergent currents of Śaivism in the Siddhānta.

II. *Theory of knowledge*—

Pramāṇas—Sense—perception. Reasoning and Authority. *Parā* and *aparā-vidyās*. Theories of truth and Error (Pramā and *Bhrama*).

III. Metaphysics. The three ultimate Realities : Pati, Paśu and Paśam. Their Viśiṣṭādvaitic tendency.

Satkārya-Vāda. The idea of causation. Criticism of other theories. Conception of God as Śiva and Śakti. God as the efficient cause. Attributes of Śiva and Śakti.

(*a*) Nature of *Pati*.—Criticism of *Nirguṇa-Vāda*. Divine motherhood and the redemptive principle of grace. Criticism of the doctrine of *Avatāra*.

(*b*) Nature of Paśu:—Śaiva Siddhānta psychology. Plurality of Souls—Characteristics of the Soul—Its relation to God—Soul as *Sad-asat*. Classification of soul's Avasthās.

(*c*) Nature of Pāśam—The threefold character—Āṇava, māyā and karma—The Thirty-six tattvas and their relation to the Soul.

(*d*) Elements of realism in Śaiva Śiddhanta.

IV. *Ethics and Religion*—

(*a*) The highest *Puruṣārtha*: *Mukti* or redemption.

(*b*) Means of attaining salvation (caryā, kriyā, yoga, jñāna, dīkṣā).

(*c*) The meaning of moral and spiritual endeavour—*Karma* and redemption.

(*d*) The nature of *mukti*—*Atma Darśana* and *Śiva Darśana*—Its contrast with the theistic and Advaitic ideal. (The four stages of *mukti*).

V. Critical study of the inter-relations of Śaiva Siddhanta, Advaita and Viśiṣṭādvaita; as also of the inter-relations of the various schools of Śaivism.

5 & 6—A (b) iv. Syllabus in Visistadvaita.

I. *History*—

(i) Germs of Viśiṣṭādvaita in the Ṛg Veda.

Development of Viśiṣṭādvaita in—

A. The Uaniṣads, especially Ghaṭaka Śrutis.

1. Bṛhadāraṇyaka (Maitreya and Antaryāmi Brāhmaṇas).
2. Chāndogya, VI, VII, VIII Adhyāyas.
3. Taittirīya (Mahānārāyana Upaniṣad).
4. Śvetāśvatara.
5. Kaṭha.

B. Brahma Sūtras and the Bhagavad Gītā with the related works by Bodhāyana, Taṅka, Dramida, Yamuna and Rāmānuja.

C. Vishnu Purāna, II, V, VI books.

(ii) Pāṇcarātra. Systematization of worship in the Mahābhārata Vedanta Sūtras—The development of the Bhāgavata religion and its relation to Viśiṣṭādvaita.

(iii) Tamil Literature—

(*a*) Growth of devotional literature, Saṅgam literature. The Āḷvars—Guruparamparā, Nammāḷvar, the chief expounder.

(*b*) The rise of Śrī Vaishṇavism. The earliest formulation of the system by Yāmunācarya.

*(iv) The fusion of the divergent currents in the Siddhanta and its classical exposition by Rāmānuja.

(v) The rise and growth of sub-systems.

(vi) Contributions of Vedānta Desika and Pillai Lokācārya to Viśiṣṭādvaita.

II. *Theory of knowledge*—

(*a*) Pramāṇas or the means of knowledge—*Śabda, Anumāna* and *Pratyakṣa*—Correlation as opposed to contradiction—Importance of Śabda—The Mīmāṃsaka doctrine justified—The equal validity of all Vedic texts—The relation of Śabda to *Aptavākyā* and intuition.

(*b*) *Satkāryavāda* or realism. The doctrine of Pañcīkaraṇa (Brahma Sūtras III—i-3). The theory of immanent causality.

(c) Nature of Error (*Yathārtha-khyāti*). The theory of continuity or *Avasthās* as opposed to that of contradiction (*mithyā*). The meaning of illusions and dreams in terms of ethical realism. Criticism of the doctrine of *Māyā*.

III. *Metaphysics*—

Conception of Viśiṣṭādvaita; nature of Brahman—Brahman as the immanent cause of cosmic evolution—Criticism of *Vivarta—vāda*—The absolute as the self-differentiating unity and as personality—The doctrine of *apṛthaksiddha-viśeṣaṇa*, Sāmanādhikaraṇya—Criticism of the *Nirguṇa vāda*—The characteristics of Brahman—The theory of incarnation—*Brahman*, *Cit* and *Acit*; eternal but not external; *Cit* and *Acit* as the *Prakāra* or mode of *Iśvara*—Nature of *Acit*—Categories and characteristics—Meaning of *Suddha Sattva* or *Aprākṛta* and time.

IV. *Psychology*—

The nature of Jīvātman as personality, persisting as a separate being in the four states of waking, dream, sleep and release—Its distinguishing qualities—cognition, conation and feeling (*jñātṛtvam*, *kartṛtvam*, and *bhoktṛtvam*) —The distinction between substantive intelligence (*dharmibhūta-jñāna*) and attributive intelligence (*dharmabhūta-jñāna*).

The Jiva as *Aṇu* or monadic as distinct from Iśvara who is *Vibhu*. The three classes of souls.

V. *Ethics*—

(*a*) The moral freedom of the finite self as a distinct personality and not a mere *viśeṣaṇa*—Criticism of the Mīmāṃsaka doctrine of the Vedic imperative—Moral freedom and divine necessity reconciled.

(*b*) Īśvara as Nārāyaṇa—Niyantā or moral ruler of the universe—The doctrine of karma—Transcendental eminence, criticism of *bhedābheda vāda*—Karma yoga as worship of God without desire for fruits—Service as the supreme good.

(*c*) Īśvara as Nārāyaṇa and Śrī—The doctrine of redemption and grace—*Karma* and *kṛpā*, reconciled.

VI. *Religion*—

(*a*) The doctrine of *Śarīra-Śarīri-Sambandha*—Logical immanence and ethical transcendence, reconciled in the idea of Jīva as a body of Īśvara—The æsthetic idea of God as *Anandamaya*.

(*b*) Requisites of *Mumukṣutva*—Progressive spiritual discipline in *Karma yoga*, *Jnāna yoga*, *Bhakti yoga* and *Prapatti*—Karma and Jnāṇa, reconciled—The relative values of *Bhakti* and *Prapatti*.—Āḷvār's mystic yearning for God.

(c) Nature of *mukti* as the highest good or freedom from *avidyā* as well as *pāpa*—Criticism of *Jīvanmukti* and *Aikyavāda*. The relative values of *kaivalya* and God-Realisation—*Dvaita* and *Advaita* (Theism and Pantheism) reconciled.

VII. Affinities with other philosophical systems, more especially with Prābhākara and Jaina Systems.

5 & 6 A. (c) Syllabus in Greek Philosophy.

A. Development of Greek Cosmological Metaphysics.—

Historical and Psychological study of conditions under which philosophic speculation arose in Greece and her colonies. Examination of claims of early cosmologists to be accounted philosophers. Inconsistent implications of hylozeism:—as met by the Eleatics: as met by Heraclitus. Mechanistic tendency of the so-called mediators, culminating in the materialistic system of Democritus.

B. Growth of Critical and Systematic Philosophy.—

The sophists: in their relation to the social and political situation of their times; in relation to foregoing speculations and doctrines; in relation to further development of philosophic thought. Socratic reconstruction of rationalistic point of view already uncritically assumed by both Parmenides and Heraclitus. Plato's theory of ideas; the anomalous position in which he left sense experience and the world of nature. Aristotle's attack upon Platonic idealism—his own attempt at harmonising phenomenal and noumenal aspects of the universe.

C. Development of Practical Philosophy—Decline of Greek Philosophic thought.—

Emergence of ethical interest; casuistry of sophists; constructive moral theory in Socrates' identification of wisdom and virtue; development of concept of ideal state of Plato and Aristotle; individualistic trend of Cynics and Cyrenaics, followed by Stoics and Epicureans respectively. Increasing prestige of practical in proportion to waning of more abstract philosophic interest. Mystery cults as influencing and as displacing philosophy. Brief summary of Megaric, Peripatetic and Academic doctrines and of various Hellenistic—Roman philosophic tendencies through Philo and Plotinus.

5 & 6 A. (e) European Philosophy from Kant to Hegel.

(OPTIONAL COURSE).

Kant's relation to Leibniz and to Hume. Nature of the Transcendental or Critical Method. Brief consideration of the problem and the conclusions of the Transcendental Aesthetic.

The Metaphysical Deduction of the Categories—a brief characterisation. Careful exposition of the gist of (a) the Transcendental Deduction (Subjective and Objective) of the Categories, and (b) of the First and Second Analogies. Subjectivism and Phenomenalism in Kant. The sceptical and the idealist tendencies distinguishable in the Transcendental Dialectic. The Paralogisms, the Antinomies, and the Proofs for the Being of God. The Regulative Value of the Ideas of Reason. Relation between the Critiques of Pure and of Practical Reason. Problem of the possibility of the categorical imperative. The relation between the *Supremum Bonum* and the *Summum Bonum*. The reality of freedom. General Problem of the Critique of Judgment. Kant's hypothetical reconciliation of Mechanism and Teleology. Critical study of Fichte's way of transforming the Kantian Phenomenalism into an Absolute Idealism. Brief description of Schelling's advance upon Fichte. Hegel's criticism of Fichte and Schelling. Careful exposition of Hegel's identification of Logic and Metaphysics. Brief statement of the nature of the tasks to which he addressed himself in the Phenomenology, the Logic, and the Philosophies of Nature and of Spirit. Understanding and Reason. Abstract and Concrete. The Dialectic Principle. Relation of the dialectical evolution to time. The Real and the Rational. Alleged intellectualism of the Hegelian system.

5 & 6 A. (f) Philosophical work prescribed.

1935 and 1936.

Sorley: Moral Values and the Idea of God, (Gifford Lectures 1914-15.)

5 & 6 B. (a) Social and Abnormal Psychology.

(SOCIAL).

Scope, data and methods of Social Psychology.

Origins of Group Life. Social Character of Behaviour.

Mechanism of Social Behaviour.

Emergence of the Crowd. Analysis of Crowd Behaviour. Classification of crowds and higher groups.

The Group Spirit.

The Mind of a Nation.—What constitutes a Nation. The part of leaders in national life. Essentials of national life.

Psychology of the Home. The parent-child relationship.

Psychological bases of Culture, Morality, Economic Value, Religion and Art.

Social Nueroses.

(ABNORMAL).

Standpoint, data and methods of Abnormal Psychology.

Schools of Abnormal Psychology. Theories of the Unconscious and the Subconscious.

Theories of Hypnosis and Suggestion.

Theories of Dream—Freud, Jung, Rivers, etc.

Conflict, Repression, and the Complex. Psychology of forgetting.

Regression.

Delusions, Hallucinations, Exaltation and Depression.

Nature and causation of neurotic and mental disorders. Theories of Freud and Adler.

Psychological Types—Extroverts, Introverts, Cycloids and Schizoids.

Psycho-therapuetic methods—Abreaction, Free Association, Re-adjustment, etc.

Alternating and Co-conscious personalities. Personality and its disintegration.

Mental Hygiene. Psycho-pathology of every-day life. Wit and the Unconscious.

Text-Books:—(Books for consultation only marked thus).*

1. Radhakamal Mukerjee & N. N. Sen Gupta: Introduction to Social Psychology (Heath) 1928.

*2. Thouless, R. H.: Social Psychology, (Univ. Tutorial Press).

3. McDougall, W.: The Group Mind, (Camb. Univ. Press).

4. McDougall, W.: An Outline of Abnormal Psychology. (Methuen).

*5. Brill, A. A.: Fundamental Conceptions of Psycho-analysis, (George Allan).

*6. Freud, S.: Interpretation of Dreams.

*7. Taylor: Readings in Abnormal Psychology.

8. Bernard Hart: Psychology of Insanity, (Camb. Univ. Press).

The following courses of reading are suggested, but in no sense prescribed for the various subjects of the B. A Honours Degree Examination :—

1. PSYCHOLOGY.

Text-books recommended.—

1. Stout & Mace: A Manual of Psychology (University Tutorial Press).
2. W. McDougall: An Outline of Psychology (Methuen).

Books for consultation.—

1. C. Spearman: The Nature of Intelligence and the Principles of Cognition (Macmillan).
2. J. B. Watson: Psychology from the Behaviourist Standpoint.
3. W. Kohler: Gestalt Psychology (Horace Liveright).
4. Robinson and Robinson: Readings in General Psychology.
5. Psychologies of 1930: (Clark University Press).
6. Woodworth: Contemporary Schools of Psychology.

2. (*a*) THEORY OF KNOWLEDGE.

(*Books for consultation only marked thus*.*)

Bosanquet: Logic or the Morphology of Knowledge, 2 Vols.

*Bradley: Logic.

Russell: Our Knowledge of the External World.

Dewey: Studies in Logical Theory, Chapters I to V and VII.

*James: The Meaning of Truth.

*Drake: Essays in Critical Realism—Introductory Essay.

*Joad: Introduction to Modern Philosophy.

Joachim: The Nature of Truth.

2. (*b*) ETHICS.

Dewey & Tufts: Ethics.

Stuart: Valuation as a Logical Process (in Dewey's Studies in Logical Theory).

Croce: Philosophy of the Practical.

Green: Prolegomena to Ethics, Books II and III.

Munsterberg: The Eternal Values, Chapters I to VI, XI (*c*). XII(*c*).

Moore: Principia Ethica, Chapters I to IV.

Bradley: Appearance and Realiity, Chapter XXV.

Do. Ethical Studies

Mezes: Ethics—Descriptive and Explanatory.

Rogers: Short History of Ethics.

John Mackenzie: Hindu Ethics.

Hopkins: The Ethics of India.

3. OUTLINES OF INDIAN PHILOSOPHY.

Deussen. The Philosophy of the Upanishads.

Max Muller: Six Systems of Indian Philosophy.

Sarva-Darsana-Sangraha (Translation by Cowell and Gough).

Chatterjee: Hindu Realism.

Thibaut: Introduction to his translation of the Vedanta Sutras.

S. Radhakrishnan: Indian Philosophy, 2 Vols.

S. N. Das Gupta: History of Indian Philosophy, Vol. I.

Ranade: A Constructive Survey of Upanishadic Philosophy (The Oriental Book Agency, Poona).

A. B. Keith: Sankhya.

Do. Karma-Mimamsa.

Do. Indian Logic and Atomism.

P. T. Srinivasa Ayyangar: Outlines of Indian Philosophy.

S. S. Suryanarayana Sastri: Śivādvaita of Śrīkaṇṭha.

Do. Sāṅkhya Kārikā.

P. N. Srinivasachari: Ramanuja's Idea of the Finite Self.

M. Hiriyanna: Outlines of Indian Philosophy.

S. Kuppuswami Sastri: A Primer of Indian Logic.

R. Nagaraja Sarma: Reign of Realism in Indian Philosophy.

Davies: The Sankhya Karikas of Iswara Krishna.

EUROPEAN PHILOSOPHY FROM DESCARTES TO KANT.

Rand: Modern Classical Philosophers (Descartes to Kant).

Thilly: History of European Philosophy.

Adamson: Development of Modern Philosophy.

Latta: The Monadology of Leibniz.

Dewey: Leibniz.

Caird: The Philosophy of Spinoza.

Johnston: The Development of Berkeley's Philosophy.

Norman Smith: Studies in Cartesian Philosophy.

Hoffding: History of European Philosophy.

Lindsay: Kant.

5 AND 6. LIST A.

(*a*) *Indian Logic.*—Courses of reading will be suggested later.

(*b*) (i) *Advaita Vedanta.*—

Bṛhadāraṇyaka and Chāndogya Upanishads with Śaṅkara's Commentaries (English translation of the latter, edited by V. C. Seshachari, Mylapore).

Bhagavad Gītā with Śaṅkara's Commentary (translated into English by A. Mahadeva Sastri).

Gauḍapāda's Kārikās on the Maṇḍūkyopanishad (English translation by M. N. Dvivedi).

Deussen: The System of the Vedānta.

Prabu Dutt Shastri: The Doctrine of Māyā.

S. Radhakrishnan: Indian Philosophy, Vol. II, chapter on Advaita.

S. N. Das Gupta: History of Indian Philosophy, Vol. I, chapter on Advaita; Vol. II. Ch. XI.

K. A. Krishnaswami Ayyar: Vedānta or the Science of Reality.

Śaṅkara's Bhāshya on the Vedānta Sūtras, I (i)—1 to 4 (English translation).

Śaṅkara's Vivekacūḍāmaṇi (English translation).

(ii) *Śaiva Siddhānta.*—

1. Śivajñānabodham with the Bhāshya of Śivajñāna Swāmigal.
2. Śivajñāna Siddhiār.
3. Siddhānta Ashṭakam by Umāpati Śivācārya.
4. Jñānāmṛtam.
5. Siddhānta-Sārāvali.
6. Brahma Sūtras with Nīlakaṇṭha's commentary and Appayya Dīkshita's Śivārkamaṇi-Dīpikā.

7. Devotional Literature like Tevāram, Tiruvaśakam and Tirumantiram.
8. Śiva-Tattva-Vivekam.
9. Kashmir Śaivism Series more especially Abhinava Gupta's works and Kashmir Saivism.
10. Śakti and Śakta by Sir John Woodroffe.
11. S. S. Suryanarayana Sastri: Śivādvaita of Śrīkaṇṭha.

(iii) *Dvaita.*—

Courses of reading will be suggested later.

(iv) *Viśiṣṭādvaita.*—

1. Vedārtha Saṅgraha.
2. Śrī Bhāshya (Introduction and I (i)—1 to 4, Dr. Thibaut's translation).
3. Gītābhāshya.
4. The 6000 Padi of Nammāḻvār's Tiruvāimoḻi.
5. Carpenter: Theism in Mediæval India.
6. McNicol: Indian Theism.
7. Bhandarkar: Vaishṇavism, Śaivism, etc.
8. T. Rajagopalachariyar: Vaishnavite Saints.
9. S. Krishnaswami Ayyangar: History of South Indian Vaishṇavism.
10. Rahasya-Traya-Sāra: Chapters 2 to 6.
11. Tattva-Traya.
12. P. N. Srinivasachari: Ramanuja's Idea of the Finite Self.

(v) *Sāṅkhya.*
(vi) *Buddhism*
(vii) *Jainism*
} Courses of reading will be suggested later.

(c) *Greek Philosophy*
(d) *Scholastic Philosophy.*
} Do.

(e) *Philosophy from Kant to Hegel.*—

1. Norman Smith: Commentary on Kant's Critique of Pure Reason.

2. E. Caird: The Critical Philosophy of Kant, 2 Vols.

3. Watson: The Philosophy of Kant Explained.

4. Webb: The Philosophy of Kant.

5. Prichard: Kant's Theory of Knowledge.

6. Croce: What is Living and What is Dead of the Philosophy of Hegel.

7. Stace: The Philosophy of Hegel.

8. Wallace: Hegel's Philosophy of Mind.

9. McTaggart: Studies in Hegelian Cosmology.

(*f*) *A philosophical work dealing constructively with the general problems of Philosophy.*—

For 1935 and 1936: W. R. Sorley: Moral Values and the Idea of God.

5 AND 6. LIST B.

(*a*) *Social and Abnormal Psychology.*—

(*Books for consultation only marked thus.**)

1. Radhakamal Mukerjee and N. N. Sen Gupta: Introduction to Social Psychology (Heath 1928).

*2. Thouless, R. H.: Social Psychology (University Tutorial Press).

3. McDougall, M.: The Group Mind (Cambridge University Press).

4. McDougall, M.: An Outline of Abnormal Psychology (Methuen).

*5. Freud, S.: Interpretation of Dreams.

*6. Taylor: Readings in Abnormal Psychology.

7. Bernard Hart: Psychology of Insanity (Cambridge University Press).

8. Hollingworth: Abnormal Psychology.

(*b*) *Child and Educational Psychology.*
(*c*) *Philosophy of Religion.*
(*d*) *Hindu Social Thought.*
(*e*) *A prescribed Period or School of Political Philosophy.*
(*f*) *Political Philosophy.*

} Courses of reading will be suggested later.

PHILOSOPHY FOR B.A. (HONS.) DEGREE EXAMINATION.

Note:—Till new sets of books are suggested for reading, the following books recommended for study in the respective subjects under the Old Regulations will be continued.

Political Philosophy—

Green: Principles of Political Obligation.

Bosanquet: Philosophical Theory of the State.

Barker: Political Thought from Spencer to To-day.

Rousseau: The Social Contract.

MacIver: Community.

Laski: Grammar of Politics.

Philosophy of Religion—

Introductory—

Galloway, G.: The Philosophy of Religion, pp. 1-53.

Foster, G. B.: The Function of Religion.

Woodburne: The Religious Attitude.

I. Historical—

Tylor, E. B.: Primitive Culture.

Frazer, J. G.: The Golden Bough (abridged edition).

Galloway, G.:—The Philosophy of Religion, pp. 88-152.

Wundt, W.: Elements of Folk Psychology, on Totemism.

Durkheim, E.: Elementary Forms of Religious Life.

Hastings: Encyclopædia of Religion and Ethics—articles: *Animism, Totemism, Fetichism, Magic and Taboo.*

Needham: Science, Religion & Reality.

II. Psychological—

Hoffding, H.: Philosophy of Religion, section.

Psychology—

Galloway, G.: Philosophy of Religion, pp. 54-87, 153-179, 219-250.

Coe, G. A.: The Psychology of Religion.

Pratt, J. B.: The Religious Consciousness.

King, Irving: The Development of Religion.

III. Logical—

Galloway: Philosophy of Religion, pp. 180-218.

Leuba, J. H.: A Psychological Study of Religion: Appendix.

Pratt, J. B.: The Religious Consciousness.

IV. Epistemological—

Galloway: The Philosophy of Religion, pp. 251-370.

Caird John: Introduction to the Philosophy of Religion, Chapters 6 and 7.

Hastings: E. R. E., Article on Epistemology.

Streeter, B. W.: Reality (Macmillan & Co.).

V. Metaphysical—

Galloway: The Philosophy of Religion, Part III.

Kant: Metaphysics of Morality.

Ward, James: The Realm of Ends.

Taylor: Elements of Metaphysics, pp. 359-407.

Rev. A. G. Hogg: Redemption from the World.

Note.—Students will not be expected to acquire a detailed knowledge of all of the Selected Readings. Special attention will be given to the following works:—

Galloway, G.: The Philosophy of Religion.

Pratt, J. B.: The Religious Consciousness.

Woodburne: Religious Attitude (Macmillan & Co.).

Branch III.

HISTORY, ECONOMICS AND POLITICS

ECONOMICS.

Students will be required to show a clear understanding of economic principles by intelligent application of economic theory to Indian facts and problems.

General.—The scope of economics. Relation of Economics to other Sciences. Methods of economic enquiry, deductive and inductive, (*e.g.*, family budgets, village and city surveys, statistics).

Psychological Basis of Economics and Consumption.—Classification of Wants. Satiability, Wants in relation to activities. Elastic and Inelastic Demand. Economic meaning and types of consumption. Conception of 'Utility' and 'Value'. Economic motives; the 'Economic Man', influence of Family System.

The Production of Wealth.—Definition. Production as (*a*) creation of use value, (*b*) creation of Exchange Value. *Classification.* Production for Producer's use (*a*) Individual, (*b*) Social. Production for the Market.

Factors of Production.—Natural forces and materials, soil, sun, rain, minerals, etc. The Principle of Conservation. *Material Capital* (Classification of forms), social and individual capital. *Human energies*, (*a*) physical (*b*) intellectual. Theory of population. Efficiency dependent on (*a*) individual physique, nutrition, knowledge, skill, moral quality. (*b*) social conditions, *e.g.*, social order, co-operation and division of labour, Methods of conserving past acquisitions of skill and knowledge (*e.g.*, hereditary occupations, apprenticeship, industrial education). New acquisitions (*e.g.*, research and invention).

Characteristics of Modern Production.—Basis (*a*) Individual Property. (*b*) Contract. Character (*a*) Mercantile, (*b*) Capitalistic. *Forms* (*a*) Individual (peasant and craftsman), (*b*) Patronal (individual employer and joint-stock company), (*c*) Co-operative, (*d*) Collectivist (state and municipal) *Specialization. Concentration* in agriculture, manufacture, transport, commerce. Horizontal and vertical combination. *Competition* and *Monopoly.* Extent to which Indian industry possesses these characteristics.

Stages of Production.—Extractive Industries. Agriculture, Fishing, Forestry, Mining, etc. *Manufacture,* Laws of Diminishing Returns and Increasing Returns. *Transport* and *Commerce,* local, intranational and international. *Money, credit,* and *insurance* as auxiliaries to production.

Mechanism of Exchange.—Origin and functions of money. Metallic Coinage. Monometallism and Bimetallism. Functions of Banks. Fiduciary money and money substitutes. (Treasury notes, bank notes, cheques, bills of exchange). Settlement of accounts, intranational and international. The Rupee. Indian Exchange. Indian Banking organization.

Exchange Value.—Theory of Value. Equilibrium between Demand and Supply. Market value and normal value. Values in international trade. Crises. Overproduction. 'Value of Money' meanings of phrase; Quantity Theory; Cost and Marginal Utility Theory. Variations in Value of Money.

Distribution of Wealth.—The Share of Land: Rent. Supply and Demand in relation to Land. The Ricardian Law of Rent. Economic Rent. Customary Rent. Rack-rent. The sharing of Economic rent in India.

The Share of Labour (*a*) Wages. Supply and Demand in relation to Labour. Theories of Wages (*a*) Minimum subsistence, (*b*) Standard of Life—(*c*) Marginal productivity. Combinations of employers and employees in relation to wages.

(*b*) *Salaries*.—Supply and Demand in relation to acquired knowledge and skill, and exceptional ability.

The Share of Capital: *Interest*—Supply and Demand in relation to Capital. The accumulation of Capital. Conversion of capital from unspecialized forms. Interest on loanable capital. Interest on investments. Capitalization. Promotion.

The Share of Enterprise: *Profits*.—Supply and Demand in relation to business Organization. Profits and the Enterpreneurs. Quasi Rent of net industrial advantage.

The Share of the State: *Taxation* :—The Community as worker and sharer in the product.

Rent, wages, etc., regarded as *cost of production*. How far these enter into price.

Economic Functions of the State—

Duties and Expenses of Government, Local and Imperial, Local and Imperial Taxation. Methods of raising taxes. The Indian Budget. Loans. The Indian Debt.

Theories of Taxation. Taxation according to benefit, taxation according to ability. Taxation for Revenue only. Incidence of Taxation.

Taxation and International Trade. Free Trade. Retaliation. Imperial Preference, Protection of native industries, Tariffs as part of a policy of national defence or aggrandisement. Commercial treaties.

The State and the Regulation of Industry. Factory Acts and the protection of the worker. Rural indebtedness and its remedies. Migration and emigration. State assistance of Industry.

Public ownership and control. State Socialism.

Special Subjects.

Any two of the following subjects:—

I. Politics—

(i) Political Writings of Burke.

(ii) Federalism (Ancient and Modern).

II. History—

(i) Unification of Germany.

III. Indian History—

(i) Mauryan Empire.

(ii) The Gupta Empire.

(iii) Vijayanagar Empire.

(iv) Moghul India (1605-1707).

(v) British Indian Administration.

IV. Economics—

(i) Currency and Banking.

(ii) Public Finance.

Text-books for Study and Reference—

I. Politics—

i. Political Writings of Burke.

Burke, Select Works (with Introduction), by E. J. Payne, Oxford University Press, Vols. 1 and 2.

The Works of Burke. (World's Classics) Oxford University Press.

Vol. 2. Speeches at his arrival at Bristol and at the conclusion of the Poll, 1774.

Speech on presenting to the House of Commons (on Feb. 11, 1780) a plan for the better security of the Independence of Parliament, and the Economical Reformation of the Civil and other establishments.

Vol. 3. Speech at Bristol previous to the elections in that city, 1780.

Speech at Bristol declining the Poll, 1780.

Speech on Fox's East India Bill, Dec. 1, 1783.

Speech on the motion made in the House of Commons, February 7, 1771, relative to the Middlesex election.

Speech on a Bill for shortening the duration of Parliaments.

Speech on a motion made in the House of Commons, May 7th, 1782, for a committee to enquire into the state of the representation of the Commons in Parliament.

Vol 5. An appeal from the new to the old Whigs.

Address to the King.

Address to the British Colonists in North America.

Letters of Edmund Burke: edited by H. J. Laski (World's Classics), Oxford University Press.

The Political Philosophy of Burke, by J. Maccunn.

Lord Morley: Burke.

ii. Federalism, Ancient and Modern

(Books will be prescribed later.)

II. History—

(i) Unification of Germany.

Books for study—

(1) The Cambridge Modern History—

Vol. X : Chap. xi : The German Federation, 1815-40.

Chap. xii : Literature in Germany.

Vol. XI : Chap. iii : Liberalism and Nationality in Germany and Austria.

Chap. vi, vii : Revolution and reaction in Germany (1848-52).

Chap. xv : Austria, Prussia and the Germanic Confederation.

Chap. xvi : Bismarck and German Unity.

Chap. xxi : The Franco-German War.

(2) A. W. Ward: Germany (The Cambridge Historical Series), Vols. I & II, 1815-1871.

(3) Lipson: Europe in the Nineteenth Century.

(4) Marriott and Robertson: The Evolution of Prussia, the Making of an Empire (1915).

(5) Headlam: Bismarck and the Foundation of the German Empire (Heroes of the Nations).

(6) Hearnshaw: Main Currents of European History (1815-1915).

Books for further study and reference—

(1) G. A. Fyffe: The History of Modern Europe.

(2) Seeley: Life and Times of Stein or Germany and Prussia in the Napoleonic Age, 3 vols.

(3) Malleson: The Life of Prince Metternich (1888).

(4) Karl Marx: Revolution and counter-Revolution in Germany, edited by E. Marx Aveling (1896).

(5) Action: The Causes of the Franco-Prussian War—in his 'Historical Essays and Studies (1907).

(6) Bismarck, the Man and the Statesman—An Autobiography.

(7) Buch: Bismarck; Some Secret Pages of his History.

(8) Schwill: The Making of Modern Germany.

(9) Treitschke; History of Modern Germany.

Translation by E. & C. Paul in 6 vols. Vols. I to IV.

(10) H. Von Sybel—Germany under Wilhelm I.

Vols. I to III—Eng. Trans. by L.M. Perin & G. Bradford, New York (1890).

(11) J. Ward: Experience of a Diplomat, being Recollections of Germany founded on Diaries kept during the years 1840 to 1870 (London 1872).

(12) Maurice: The Revolutionary Movement of 1814-49 in Italy, Austria-Hungary and Germany (London, 1887).

(13) G. P. Gooch: History and Historians in the 19th Century (1913) (specially useful on the German Historical School).

III. Indian History—

i. The Mauryan Empire.

(Books will be prescribed later.)

ii. The Gupta Empire.

Books for Study—

(1) F. E. Pargiter: Dynasties of the Kali Age.

(2) Fleet: Gupta Inscriptions (Corpus Inscriptionum Indicarum III).

(3) Allan: Catalogue of Coins in the British Museum: Gupta Coinage.

(4) Rapson: Catalogue of Coins in the British Museum; Andhra, etc.

(5) Sir John Marshall: Guide to Sanchi.

(6) Vincent Smith: History of Fine Arts in India (relevant chapters only).

(7) S. K. Ayyangar: Vakatakas and their place in Indian History.

(8) Smith's Vakatakas: J. R. A. S. 1914.

(9) Jouveau-Dubreuil: A History of the Deccan.

(10) Legge: Fa Hien.

(11) Bhandarkar: Peep into the Early History of India.

(12) H. C. Ray Chaudri: Political History of Ancient India, Parikshit to the Gupta Empire.

(13) S. K. Ayyangar: Samudragupta and Chandragupta II.

(14) Hun Invasions: J. R. A. S. 1908, Hoernle's article on Yasodharman.
J. B. Br. R. A. S. XIX and XXIV Modi and Pataka.

(15) S. K. Ayyangar: Origin and Early History of the Pallavas

or

R. Gopalan's History of the Pallavas of Kanchi (earlier part).

For further Reading—

(1) A. S. R. 1903—4 Basarh Seals.

(2) Bhitari Seal of Kumaragupta; J. A. S. B. LVIII.

(3) Inscriptions of Kumaragupta I. J. A. S. B. V. New Series.

(4) Two Vakataka Grants J. A. S. B. XX New Series. Ep. Ind. XV.

(5) Damodrapur Plates: Ep. Ind. XV.

(6) Samudragupta Ins. Ind. Antiq. 1913.

(7) V. A. Smith: Gupta Chronology, Indian Antiquary. 1902.

(8) Western Satraps: J. R. A. S. 1890 and 1899. Bindulph.

(9) Kay's Indian Mathematics,

III. Vijayanagar Empire--

R. Sewell: A. Forgotten Empire (Reprint, 1924, 10 sh.).

S. Krishnaswami Ayyangar: South India and her Muhammadan Invaders.

Major King: Burhan-i Ma'asir (Reprinted from the Indian Antiquary—Vol. 28).

S. Krishnaswami Ayyangar: Sources of Vijayanagar History. Abdur Razzak: An account of his voyage to India (Chapter on Vijiyanagar).

R. H. Major: India in the 15th Century (Trans.) (Hakluyt Society). Failing this, Extract in Elliot and Dowson's History of India as told by her own Historians).

S. Krishnaswami Ayyangar: A little known chapter of Vijayanagar History.

H. Krishna Sastri: Three articles on the Dynasties of Vijayanagar—A. S. R.—1907-08, 1908-09 and 1911-12.

Longhurst: Humpi Ruins.

Briggs: Ferishta.

M. Longworth Dames: Book of Duarte Barbosa—chapters relating to Vijayanagar.

Hultzsch: Coins of Vijayanagar (in the Indian Antiquary).

S. Krishnaswami Ayyangar and R. Satyanatha Ayyar: The Nayaks of Madura—Introduction and early chapters up to Chokalinga Nayaka.

For Consultation:—

Epigraphist's reports of Madras and Mysore.

or

Rangachari's Inscriptions of the Madras Presidency.

Danvers—Portuguese India.

Purchas: His Pilgrims, Volume X.

IV. Mughal India, 1605 to 1707—

M. Elphinston: History of India, Ed. E. B. Cowell.

H. G. Keene: History of Hindustan.

Pringle Kennedy: History of the Great Mughals, 2 Vols.

Lane Poole: Aurangzeb (Rulers of India Series).

Jadunath Sircar: History of Aurangzeb (5 Vols. so far published).

Sir William Hunter: History of British India. 2 Vols.

Duff: History of the Mahrattas, Vol. 1 (3 Vols., Cambray & Co., Calcutta, or better Edwardes' edition, Oxford University Press).

Ranade: Rise of the Mahratta Power.

W. Irvine: Life of Aurangzeb (Indian Antiquary reprint).

Memoirs of Jehangir: Trans. by Rogers and Beveridge, 2 Vols. Royal Asiatic Society's Publications.

Sir Henry Elliot: History of India, as told by her own Historians, Vols. VI and VII.

For Consultation only: —

Sir Thomas Roe (Ed. by W. Foster, 2 Vols.).

Manucci: Storia do Mogor (Trans. by Irvine, 4 Vols.).

Bernier: Travels in the Mughal Empire (Vincent Smith's edition, Oxford University Press).

Tavernier: Travels in India (Ball's edition, revised by W. Crookes, 2 Vols. Oxford University Press).

David Macpherson: History of European Commerce with India.

W. Foster's Letters received by the East India Company from its Servants in the East.

J. Talboys Wheeler: Madras in Olden Times.

Jadunath Sircar: The India of Aurangzeb.

J. H. Billimoria: Letters of Aurangzeb.

Gemelli Careri's Travels (Haklyut Society).

Ma'asir-ul-Umara: English translation in the Bibliotheca Indica.

v. British Indian Administration:—

Kaye: The Administration of the East India Company.

Ilbert: Government of India.

Ramsay Muir: The Making of India.

Mukerji: Indian Constitutional Documents, 2 Vols.

Cowell: History and Constitution of the Courts and Legislative Authorities in India.

Curtis: Dyarchy.

Ilbert: The New Constitution of India.

Chailley: Administrative Problems of the British in India

Keith: Speeches on Indian Policy.

Archbold: The Indian Constitution.

IV. ECONOMICS—

i. CURRENCY AND BANKING—

Books recommended—The same as for Br. IV (Hons.).

ii. PUBLIC FINANCE—

Books recommended—The same as for Br. IV (Hons.).

POLITICS—GENERAL

Branches III & IV.

Books recommended.—

Jenks, S.: The State and the Nation.

Warde-Fowler: The City State of the Greeks and Romans.

Sidgwick: Development of European Polity.

Bryce: Modern Democracies.

Dicey: Law of the Constitution.

Keith: Constitution, Laws and Administration of the British Empire.

Ogg: Governments of Europe, 1923 Edition.

E. A. Horne: The Political systems of British India.

Ilbert and Meston: The New Constitution of India.

Pollock: History of the Science of Politics.

Robert H. Murray: History of Political Science.

ECONOMICS FOR B A. (HONS.) DEGREE EXAMINATION.

G. P. Gooch : Political Thought in England from Bacon to Halifax.

H. J. Laski : „ „ „ from Locke to Bentham.

W. L. Davidson : „ „ „ from Bentham to Mill.

Ernest Barker : „ „ „ from Herbert Spencer to the Present day.

Maccunn : „ „ „ Six Radical Thinkers.

Joad: Modern Political Theory.

Mill: Representative Government.

Jethro Brown: Underlying Principles of Legislation.

Miss Follett: The New State.

Branch IV.

ECONOMICS AND POLITICS OR HISTORY.

ECONOMICS I.

Books recommended.—

Marshall—Principles of Economics.

Taussig—Principles of Economics (3rd Edition), 2 Vols.

Devas—Political Economy.

Dalton—Public Finance.

Indian Year Book.

ECONOMICS II.

Books recommended.—

Taussig—International Trade.

Marshall—Industry and Trade.

Cannan—A review of Economic Theory.

Gide and Rist—History of Economic Doctrines.

A. Gray: The Development of Economic Doctrine (Longmans).

A selected Economic Classic, (Selections from Ricardo-Economic Classics Series edited by W. J. Ashley).

Note:—The question paper in Economics II will be set in two parts. Part I—A comparative study of Modern Economic Theory with special reference to a prescribed classic. Part II—Advanced questions in the present organisation of Industry and Trade, including International Trade.

BOOKS RECOMMENDED FOR STUDY IN ECONOMICS FOR B.A. (HONS.) DEGREE EXAMINATION.

ECONOMIC HISTORY.

A general survey of the development of industry, trade and agriculture in Great Britain and India chiefly from 1700 A.D. and in France, Germany, and U.S.A. from 1850.

Books recommended.—

Knowles—Industrial and Commercial Revolutions in Great Britain during the 19th Century.

Knowles—The Economic Development of British Overseas Empire.

Clapham—The Economic Development of France and Germany.

Bogart—Economic History of the United States.

Dutt—The Economic History of India in the Victorian Age.

Imperial Gazetteer, Vols. III and IV.

Anstey: Economic Development of India.

Special Subjects.

Any two of the following subjects:—

1. Banking and Currency.
2. Public Finance.
3. Social Economics (including Labour Problems).
4. Rural Economics (including Co-operation).
5. Indian Land Tenures.

(Books for study and reference are given below.)

Economics, Special

1. *Banking and Currency* (includes money, credit, foreign exchanges and prices).

Books recommended—

Conant: Money and Banking.

Kemmerer: Modern Currency Reforms.

Fisher: The Purchasing Power of Money.

Lavington: The English Capital Market.

Cassel: The World's Monetary Problems.

Duguid: The Stock Exchange.

Marshall: Money, Credit and Commerce.

Riesser: German Great Banks.

Keynes, J. M.: A. Tract on Monetary Reform.

Reports and Evidence of the Indian Currency Committees.

Annual Reports on the Operations of the Currency Department of the Government of India.

Statistical tables relating to Banks in India (Annual).

Coyajee, J. C.: The Indian Currency System.

Flux: Foreign Exchanges.

Hawtrey: Currency, and credit.

Report of the Indian Central Banking Enquiry Committee.

2. *Public Finance* (including the economic functions of the State, the raising and spending of taxes and public loans, and the regulation of tariffs).

Books recommended—

Bastable: Public Finance.

Adams: Finance.

Stamp: The Principles of Taxation.

Seligman: Essays in Taxation.

Seligman: Shifting and Incidence of Taxation.

Hobson: Taxation in the New State.

Redlich and Hurst: Local Government in England (Chapter dealing with finance).

Shah: Indian Finance during the Past Sixty Years.

The Budget Statements of the Government of India since 1920.

Findlay Shirras: Science of Public Finance.

Indian Taxation Committee Report, 1926.

3. *Social Economics* (including Labour Problems).

Books recommended—

Webb: History of Trade Unionism.

De Montgomery: British and Continental Labour Policy.

Tillyard: The Worker and the State.

Cole: Self-Government in Industry.

O'Brien: Labour Organization.

Survey of Industrial Relations. (Committee on Trade and Industry).

Lindsay: Karl Marx's Capital.

Report of the Indian Factory Labour Commission, 1908.

Report of the Indian Industrial Commission.

Publications of the Government of India, Labour Bureau.

The Labour Gazette, Bombay (Monthly).

Broughton: Labour in Indian Industries.

Census of India, 1921, India and Madras, Chapters on Industries and occupations.

Shirras: Report on an enquiry into the wages and hours of labour in the Cotton Mills Industry.

Report of the Royal Commission on Labour in India.

4. *Rural Economics* (including co-operation).

Books recommended—

Carver: Agicultural Economics.

Nicholson: Report on the Introduction of Land and Agricultural Banks, Vol. I.

Leake: Agriculture in the United Provinces.

Slater: Some South Indian Villages.

Srinivasaraghava Ayyangar: Memorandum on Forty Years' Progress in the Madras Presidency.

Jack: Economic Life of a Bengal District.

Darling: The Punjab Peasant in Prosperity and Debt.

Baden-Powell: A short Account of Land Revenue and its Administration.

Report of the Royal Commission on Indian Agriculture.

Reports of the Indian Famine Commissions of 1880 and 1901.

5. *Indian Land Tenures* (includes the development and main features of the principal systems of land tenure in India).

Books recommended—

Baden-Powell: A Short Account of the Land Revenue and its Administration.

Land Revenue Resolution of the Government of India (1902) and connected papers.

Arbuthnot: Selections from the Minutes of Sir T. Munro.

Seton Kerr: Marquess Cornwallis.

Bradshaw: Sir Thomas Munro.

Temple: James Thomason.

Srinivasaraghava Ayyangar: Memorandum on Forty Years' Progress of the Madras Presidency.

ENGLISH.

B. A. (Hons.) Preliminary, B.Sc. Part I and B.Sc. (Hons.) Degree—Part I Examinations.

1935

Prose.—

De Quincey: Essays, omitting 'Rhetoric' as for B.A. New Regulations, 1935.

Twentieth Century Essays: (Archbold), omitting Essay X.

Composition.—

Meredith: The Ordeal of Richard Feverel.

Four Stevenson Stories: T. E. S. Nelson.

Lytton Strachey: Queen Victoria. The Phoenix Library—Chatto and Windus.

1936.

Prose.—

De Quincey: Essays, omitting 'Rhetoric'. (Wallet Library—Blackie).

Sharma: Ideals and Realities. (Oxford University Press).

Non-detailed Study.—

Dr. Johnson: A Selection from Boswell's Biography. (The Scholar's Library—Macmillan).

George Eliot: Silas Marner.

Laurence Binyon: Akbar, (Peter Davies).—Indian Edition. (Messrs. Rochouse & Sons, No. 292, Esplanade, Madras).

B. A. (HONOURS) DEGREE EXAMINATION (FINAL).

1935.

BRANCH VI.

ENGLISH LANGUAGE AND LITERATURE.

Division (a)—

Old English: Anglo-Saxon Reader, by A. J. Wyatt.

For Detailed Study: Selections 1, 2, 3, 7, 11, 14, 20, 24, 26, 28, 33 and 34.

Middle English, Emerson's Middle English Reader, the following selections:—

Part 1-A—1, 2.

Part 1-B—1, 6, 7.

Part 2-A—1, 3, 5, 6.

Part 2-B—2, 4, 5, 6, 8.

Chaucer: The Prologue, the Knight's Tale, The Nun's Priest's Tale.

The Pearl (edited by Osgood, Belles Lettres Series).

Division (b):—

**Shakespeare*—

Love's Labour's Lost, Henry IV, Part I, As You Like It, King Lear and The Tempest.

Poetry and Prose of the fifteenth to the nineteenth century:—

Modern Literature I.

Before 1660.

Surrey, Wyatt, Selections in Skeat's Specimens of English Literature from 1394 to 1579.

Spenser: Fairie Queen Book I,* Prothalamion, Epithalamion.

Ballads: in Ward's English Poets, Volume I. Elizabethan Lyrics and Sonnets in Palgrave's Golden Treasury—Book I.

Prose—

Mandeville, Wycliff, Malory, Berners, More and Hooker in Craik's Selections.

Sidney: Apologie for Poetry.*

Bacon: First Twelve Essays, New Atlantis.

Browne: Religio Medici, Book I.

Milton: Areopagitica.*

Drama—

Marlowe: Edward II,* Dr. Faustus

Kyd: Spanish Tragedy.

Jonson: Everyman in his Humour: Bartholmew Fair.

Beaumont & Fletcher: Philaster, The Knight of the Burning Pestle.

Massinger: A New Way to pay old debts.

Webster: White Devil, The Duchess of Malfi.*

Modern Literature II.

Between 1660 *and* 1780.

Poetry—

Milton: Paradise Lost, Books* 1 and 2, and Samson Agonistes.

Dryden: Absalom & Achitophel,* MacFlecknoe.

Palgrave: Golden Treasury of Songs, Book II.

Pope: Epistle to Arbuthnot,* Essay on Criticism, Rape of the Lock.

Collins and Gray: Selections in Ward's English Poets.

Goldsmith: Deserted Village.

Thomson: The Seasons, Winter.

Burns: Songs in Palgrave's Golden Treasury.

Prose—

Bunyan: Pilgrim's Progress, Part I.

Dryden; Preface to the Fables.*

Defoe: Moll Flanders.

Swift: Tale of a Tub, Battle of the Books.*

Addison: Selections, Ed. Lobban.

Richardson: Clarissa (abridged edition, Routledge).

Fielding: Tom Jones.

Johnson: Preface to Shakespeare,* Milton, Drylen, Pope.*

Selections from Great Letter Writers (Blackie & Sons), (Nos. 23 to 100).

Burke's Speeches, edited by Selby.

Gibbon: The Muhammadan World (Longmans).

Dryden: All for Love (World's Classics).

Congreve: The Way of the World.*

Goldsmith: She stoops to conquer.

Sheridan: The Rivals.

Modern Literature III.

After 1780.

Poetry—

Wordsworth: Selections, edited by Nichol Smith (Clarendon Press).

Coleridge: Selections in Ward's English Poets.

Byron: Vision of Judgment.

Shelley, Keats*: Selections in Ward's English Poets.

Rossetti: The Blessed Damozel, Rose Mary, The White Ship, The King's Tragedy.

Browning: Rabbi Ben Ezra,* Abt Vogler,* Fra Lippo Lippi,* Pippa Passes.

Tennyson: In Memoriam.

Arnold: The Forsaken Merman, Sohrab, The Scholar Gipsy,* Thyrsis.*

Morris: Defence of Guinevere and other poems.

Prose—

Scott: Bride of Lammermoor.

Jane Austen: Pride and Prejudice, Emma.

Lamb: Essays of Elia, I Series.*

Newman: Literary Selections (Longmans).

Thackeray: Esmond.

Arnold: Selections, Ed. Rawlinson (Macmillan).

Pater: Selections, Ed. Rawlinson* (Macmillan).

Stevenson: Selections, Ed. Dunn (Longmans).

Meredith: Richard Feverel, The Egoist.

Hardy: Far from the Madding Crowd, Tess of the D'urbervilles.

Drama—

Arnold: Merope.

Swinburne: Atalanta in Calydon.*

Shaw: St. Joan.

Drinkwater: Abraham Lincoln.

Division (c)—Special Period—

Elizabethan Literature (1558 *to* 1637).

1. *The Drama.*—Kyd: *The Spanish Tragedy.** Greene: *Friar Bacon and Friar Bungay.* Marlowe: *Dr. Faustus.** Ben Jonson: *The Alchemist, Volpone.* Beaumont and Fletcher: *The Faithful Shepherdess, The Knight of the Burning Pestle.* Webster: *The Duchess of Malfi.** Dekker: *A Shoemaker's Holiday.* Heywood: *A Woman Killed with Kindness.* Middleton: *The Witch.* Massinger: *A New Way to pay Old Debts.** Shirley: *The Traitor.*

II. *Non-Dramatic Poetry.*—Spenser: *The Faerie Queene,* Books I* and II. *An Anthology of Poetry of the Age of Shakespeare,* edited by W. T. Young (The Cambridge Press). Shakespeare: Sonnets.* Marlowe: *Hero and Leander,* Sestiads I and II.

III. *Prose.*—Lyly: *Euphues, The Anatomie of Wit.* Ascham: *The Schoolmaster,* Book II.* Hakluyt: *Voyages of Elizabethan Seamen,* edited by E. J. Payne, First Series. Raleigh: *The Last Fight of the Revenge.* Hooker: *Ecclesiastical Polity* Book I. Bacon: *The New Atlantis. Henry VII.** Dekker: *The Gull's Horn Book.*

2. *The Age of Milton and Dryden.*

(Set books will be announced later, if required.)

3. *The Age of Pope and Johnson.*

Prose—

Defoe: Captain Singleton.

Addison: The Coverley Papers*—Edited by O. Myers (George Harrap).

Swift: Selections* in the Scott Library (Omitting the Battle of the Books).

Richardson: Pamela.

Fielding: Tom Jones.

Sterne: A Sentimental Journey

Smollett: Humphrey Clinker.

Gibbon: The Crusades.*

Burke: Speeches*—Edited by F. G. Selby (Macmillan).

A Shorter Boswell: Edited by J. Bailey (Thomas Nelson & Sons).

Johnson: Life of Milton.

Walpole: Letters (Bohn's Classics).
The Castle of Otranto.

Goldsmith: She Stoops to Conquer.*

Sheridan: The School for Scandal.

Miss Burney: Evelina.

Poetry—

Pope : The Essay on Criticism; The Rape of the Lock.*
The Epistle to Augustus;* The Epistle to Dr. Arbuthnot.

Gay: Trivia. The Beggar's Opera.

Churchill, Smart, Thomson*: Selections in Wards English Poets.

The Poetical Works of Collins* and Gray*—Edited by A. L. Pool (Oxford).

Johnson: The Vanity of Human Wishes; London.

Cowper: The Task.

Goldsmith: Traveller*, The Deserted Village, Retaliation.

4. *Wordsworth and his Contemporaries.*

Poetry—

Wordsworth: *The Prelude.** Coleridge: *The Ancient Mariner, Christabel, Dejection.** Scott: *Marmion. Lay of the Last minstrel.* Campbell: *Ye Mariners of England, Battle of the Baltic.* Shelley: *Prometheus Unbound.* Adonais.** Keats: *Endymion.* Eve of St. Agnes, Isabella.* Byron: *Childe Harold*, Cantos 1 to 4; *Don Juan*, Cantos 1 to 4. Southey, Landor, Moore, *Selections in Ward's English Poets.*

The Drama—Shelley: *The Cenci. Byron: Manfred.*

Prose.—Coleridge: *Biographia Literaria.* Wordsworth: *Preface to the Lyrical Ballads.** Hazlitt: *The English Poets. Essays on the Comic Writers.* Lamb: *Essays of Elia and Critical Essays*, edited by Ainger. Landor: *Imaginary Conversations** (Blackie & Son) Indian edition. De Quincey: *Confessions of an Opium Eater.* Shelley: *Defence of Poetry.** Southey: *Life of Nelson.* Cobbet and Leigh Hunt: *Selections in Craik's English Prose*, Vol. 5.

The Novel.—Jane Austen: *Pride and Prejudice. Emma.* Lytton: *Last Days of Pompeii.* Scott: *Kenilworth. Rob Roy, Quentin Durward.* Peacock: *Melincourt.*

5. *Tennyson and his Contemporaries.*

(Set books will be announced later, if required.)

6. *Indo-Germanic Philology with special reference to Sanskrit.*

A Sanskrit Reader, by C. R. Lanman (Ginn & Co.).

A Sanskrit Grammar for Beginners. New edition, by A. A. Macdonell (Longmans).

A Sanskrit Primer, by G. D. Perry (Ginn & Co.).

The following books indicate the character and scope of the course:—

A. Thumb: Handbuch der Sanskrit, Vol I.

C. G. Uhlenbeck: A Manual of Sanskrit Phonetics.

Loewe: Germanic Philology, English Translation by Jones.

L. Armitage: Introduction to Old High German Grammar.

Giles: A Short Manual of Classical Philology for Classical Students.

L. Bloomfield: An Introduction to the study of Language—English Edition (G. Bell & Sons, London).

Note:—Candidates are required to show a detailed knowledge of books marked with asterisk.

SANSKRIT LANGUAGE AND LITERATURE

Branch VII—B. A. Honours

GENERAL PART

1935.

Siddhānta-kaumudī : (*a*) Pūrvārdha, from Strīpratyayaprakarana to the end of Apatyādhikāra in the Taddhitaprakriyā.

(*b*) Uttarārdha, the whole omitting Uṇādiprakarana.

Vidyanatha : Prātaparudra-yaśō-bhūṣaṇa.

Ṛig Vēda : Macdonell's Vēdic Reader, hymns I to X together with Sāyaṇa's Upōdghāta to his Ṛg-Bhāṣya and the corresponding passages (I to X) in the Sāyana's Commentary on the Ṛg. Vēda. (Oxford University Press).

Yāska : Nirukta, Naighaṇṭuka-kāṇḍa, Chapter II.

Mṛcchakaṭika : by Śūdraka.

Śrī Harṣa : Naiṣadhiyacarita, Cantos IV, V and VI.

Baṇa : Harṣacarita, Ucchvāsas I to III.

In connexion with Branch vii of the B.A. (Honours) Degree Examination, the attention of students is invited to the following books, though it must be distinctly understood that they are not prescribed as text-books.

1. Science of Language, History of the Sanskrit Language and History of Sanskrit Literature.

Books recommended for study—

Jesperson: Language, its origin, theory and development.

Giles: Short Manual of Comparative Philology for classical students (Macmillan).

Tucker: Introduction to the Natural History of Language (Blackie).

Sweet: The History of Language (Temple Primers).

Bloomfield: Introduction to the Study of Language (G. Bell & Sons).

Macdonell: Vedic Grammar for Students (Oxford University Press).

Whitney: Sanskrit Grammar (Kegan Paul, Trench, Trubner & Co.).

Uhlenbeck: Manual of Sanskrit Phonetics (Luzac & Co.).

Kaegi: The Rig-veda: the oldest Literature of the Indians (Ginn & Co., Boston).

Macdonell: History of Sanskrit Literature (William Heinemann).

Macdonell: India's past.

Max Muller: History of Ancient Sanskrit Literature (Reprint, Panini Office, Allahabad.)

A. B. Keith: 'Classical Sanskrit Literature' and 'Sanskrit Drama, its origin, theory and development.'

Books recommended for consultation—

Brugman: Comparative Grammar of the Indo-Germanic Languages, translated by Wright, Conway and Rouse.

Bopp: Comparative Grammar of the Sanskrit, Zend, Greek, Latin, Luthuanian, Gothic German and Slavonic languages (translated by Eastwick.)

Schleicher: Compendium, translated by Bendall

Whitney: Life and Growth of Language.

" : Language and its Study.

" : Oriental and Linguistic Studies.

Max Muller: Lectures on the Science of Language

" : Biography of Words.

Delbruck: Introduction to the Study of Language.

Carl Abel: Linguistic Essays.

Lefevre: Race and Language.

Gray: Principles of Indo-Iranian Phonology.

Thumb: Handbuch des Sanskrit.

Wackernagel: Altindische Grammatic.

Macdonell: Vēdic Grammar.

Beams: Comparative Grammar of the Modern Aryan languages of India.

Hoernle: Comparative Grammar of the Gaurian languages.

Arnold: Vēdic Metre.

Bloomfield: The Atharva-vēda,

Rg., Yajus and Atharva-prâtisâkhyas.

Goldstucker: Pāṇini, his place in Sanskrit Literature.

Weber: History of Indian Literature translated by Mann and Zachariah.

Muir: Original Sanskrit Texts.

Stein: Kalhaṇa's Chronicle of Kāshmir.

Ragozin: Vedic India.

Rhys Davids: Buddhist India.

V. A. Smith: Early History of India.

Rapson: Ancient India.

R. C. Dutt: History of Civilization in Ancient India.

C. V. Vaidya: Epic India.

„ Riddle of the Rāmāyaṇa.

Bhandarkar: Early History of the Dekkan

Schrader: Prehistoric Antiquities of the Aryan Peoples.

Langlois and Seignobos: Introduction to the Study of History (translated by Berry).

A. B. Keith: Religion and Philosophy of the Vedas and Upanisads—Harward Oriental Series.

Winternitz—History of Sanskrit Literature.

SPECIAL PART.

1935.

Vedānta and Mīmāmsā.

1. Dharmarājādhvarin : Advaita-paribhāṣā (Venkateswar Steam Press, Bombay).

2. Rāmānuja : Vēdārthasamgraha (Lazarus & Co., Benares).

3. Madhvācārya : Daśaprakaraṇas, omitting Karmanirṇaya and Viṣṇutattva-nirṇaya (Madhva Vilas Book Depot, Kumbakonam).

4. Saṅkarācārya : Brahma-sūtra-bhāṣya, Catussūtrī only (Nirnaya Sagara Press, Bombay).

5. Apōdēva : Mimāmsā-nyāya-prakāśa (Chowkhāmba Book-depot, Benares).

B.A. (HONS.) DEGREE EXAMINATION, 1935.

Books recommended for study—

F. Max Muller : The Six Systems of Indian Philosophy (Macmillan & Co.).

P. Deussen : The Philosophy of the Upaniṣads, translated by Rev. A. F. Geden (T. Clark & Co.).

P. Deussen : Outline of the Vēdanta System, translated by C. Johnston (Luzac & Co.).

K. L. Sircar : The Mīmāmsā Rules of Interpretation (Tagore Law Lectures, Thacker, Spink & Co., Calcutta).

A. B. Keith : Karma-Mīmāmsā.

Rāmakṛṣṇadīkṣita's Commentary on the Advaita-paribhāṣā (Venkateswar Steam Press, Bombay).

Books recommended for consultation—

Śrī Harṣa : Khaṇḍana-Khaṇḍa-Khādya.

Mādhavācārya : Sarvadarśana-Samgraha.

Śābara-bhāṣya with Kumārila's Vārtika.

Vācaspati Miśra : Bhāmatī.

Advaitānandasarasvati : Brahmavidyābharaṇa.

Appayyadīkṣita : Nyāya-rakṣāmaṇi.

Mādhavācārya : Jaiminīya-Nyāya-Mālāvistara.

The Ṭīkās on Mādhvācārya's Daśaprakaraṇas.

Pārthasārathi Miśra : Śāstra-dīpikā.

Vēdānta Deśika : Nyāyā-pariśuddhi.

G. Thibaut : The Vēdānta-Sūtras, with commentary by Śaṅkarācārya: Introduction.

W. James : Pramatism.

F. H. Bradley : Appearance and Reality.

J. Royce : The World and the Individual, First Series, Lecture IV.

R. Flint : Theism and Antitheistic Theories.

H. Lotze: Microcosmus, Book IX, Chap. IV, translated by G. Hamilton and G. G. C. Jones.

L. T. Hebhouse : Theory of Knowledge.

A. K. Roger : A brief Introduction to Modern Philosophy.

N.B.—Students are informed that all the Oriental books in the above lists can be procured through the Oriental Book Supplying Agency, 15, Shukrawarpet, Poona, or through the Proprietor, The Punjab Sanskrit Book Depot, Said Mitha Bazaar, Lahore.

Branch viii.

ARABIC LANGUAGE AND LITERATURE

1935—1938.

Note.—For the M.A. Degree Examination the same text-books as for the B.A. (Honours) Degree Examination with the omission of Comparative Philology and Comparative Grammar are prescribed.

General Part.—

1. Tafsir-i-Bayzawi—1st Surah only.
2. Jamharatu-Ash'a' ril Arab by Ibn Durayd.
3. Al Hamasa by Abu Tammam—First three chapters.
4. Diwan of Al Mutanabbi—1st Part ('Ukbari's commentary).
5. Maqamat of Al Hariri.
6. Maqamat of Badi'uzzaman-al-Hamadani.
7. Sahihul Bukhari—1st Five Ajza.
8. Tarikhu—Adabil--Lughatil—' Arabiyyah by Jurji Zaydan, 1st 2 Volumes.

Grammar, Prosody, and Poetics.—

1. Asrarul Balaghat } by Abdul Qahir Jurjani.
2. Dalailul 'Ijaz }
3. Wright's Arabic Grammar, Vols. 1 and 2.
4. Wright's comparative grammar of Semetic Languages.
5. Al Muffasal by Al-Zamakhshari.

History of Literature.—

1. Nicholson's Literary History of the Arabs.
2. Tarikhu Adabil Lughatil Arabiyyah by Zaydan.
3. Fil Adabil Jahili by Taha Husain.

Special Part.—

1. Prolegomena of Ibn-Khaldun.
2. As-shifa by Qazi 'Iyaz.
3. Muhazaratul-Umamil Islamiyyah by Alkhizari.
4. 'Asarul-Mamun.
5. Tarikhut—Tamaddunil Islami by Zaydan.

I. The attention of the student is invited to the following books, though it must be distinctly understood that they are not prescribed as text-books:—

1. The Kamil of Al Mubarrad (Edited by Wright).
2. Khamsatu Dawawinil Arab.
3. Diwans of Abu Nuwas and Abul Ala.
4. Kitabul Amali by Abu Ali-al-Qali.
5. Oriental and Linguistic studies (Whitney).
6. Traditions of Islam by Guillumme.
7. Muslim Jurisprudence and Theology by Macdonald.
8. Islamic culture, Edited by Picthal, 1st five volumes.

II. Books recommended for study with reference to the Special Part:—

1. Yaqut's Dictionary of Learned men.
2. The spirit of Islam (Amir Ali).
3. History of the Saracens (Amir Ali).
4. Rise, Decline and fall of the Caliphate (Muir).
5. The legacy of Islam by Arnold.
6. Murujuz Zahab by Al-Mas'udi.
7. Nafhut Tib by Al Muqqari, first 2 Volumes.

B. A. (Hons.) Degree Examination (Final) 1936.

Branch VI.

ENGLISH LANGUAGE AND LITERATURE.

Division (a).—

Old English:—

Anglo-Saxon Reader by A. J. Wyatt, Cambridge University Press.

For Detailed Study:—

Selections 1, 2, 3, 7, 11, 12, 14, 20, 24, 26, 27, 28, 34.

Middle English:—

Middle English Reader by O. F. Emerson, (Macmillan).

The following selections:—

Part I-A—1, 2.
B—1, 6, 7

Part II-A—1, 3, 5, 6.
B—2, 4, 5, 7, 8
C.—3.

Chaucer: The Prologue, the Nun's Priest's Tale, the Pardoner's Tale.

Sir Gawayne and the Green Knight. Ed. Tolkien and Gordon, lines 1105 to the end.

Division (b).—

Shakespeare:—

Love's Labour's Lost, Henry IV, Part I, As You Like It, King Lear, Tempest.

Modern Literature I—**Before 1660.**

Poetry:—

Wyatt, Surrey: Selections in English Verse—Vol. I. (W. Peacock—Worlds Classics).

Ballads: Selections in Peacock—Volume 2, pp. 434—556.

Daniel, Drayton, Shakespeare: Selections in Peacock—Vol. I, omitting pp. 356—414.

Spenser: Færie Queene, Book I* and Selections in Peacock, pp. 209—245.

Prose:—

Mandeville, Malory, Berners, More, Hooker in Craik's Selections in English Prose, Vol. I.

Sidney: Apology for Poetry.*

Bacon: First Twelve Essays,* New Atlantis.

Browne: Religio Medici.

Milton: Areopagitica.

Drama:—

Marlowe: Dr. Faustus, Edward II.*

Kyd: The Spanish Tragedy.

Jonson: Every man in His Humour.
Bartholomew Fair.

Beaumont & Fletcher: Philaster.*

Massinger: A New way to pay Old Debts.

Dekker: The Shoe Maker's Holiday.

Webster: The White Devil, The Dutchess of Malfi.*

Modern Literature II, 1660—1780.

***Poetry*:—**

Milton: Paradise Lost—Books* I and 4, and
Selections in Peacock—Vol. 2. pp. 217—280.

Campion, Donne, Herbert, Jonson, Crashaw, Marvell,
Vaughan: Selections in Peacock—Vol. 2.

Dryden: Absalom and Achitophel*, MacFlecknoe.

Pope: The Rape of the Lock* and Selections in Peacock--Vol. II.

Johnson, Gray, Collins, Goldsmith, Blake, and Burns in Peacock.

Thomson: Winter.

Prose:—

Bunyan: Pilgrim's Progress, Part I.

Dryden: Preface to the Fables.*

Swift: Gulliver's Travels, Tale of a Tub.
Battle of the Books.*

Addison: Selections Ed. Lobban.

Richardson: Clarissa.

Fielding: Tom Jones.

Johnson: Preface to Shakespeare;* Milton, Dryden, Pope.

Selections from Great Letter Writers (Blackie) Nos. 23 to 100.

Burke: The French Revolution.

Gibbon: Book I. The Eternal City—Rawlinson & Dunlopp (Longmans).

Drama:—

Dryden: All for Love.

Congreve: The way of the World.*

Steele: The Conscious Lovers.

Goldsmith: The Good Natured Man.

Sheridan: Rivals.*

TEXT-BOOKS IN ENGLISH FOR B.A. (HONS.) DEGREE EXAMINATION, 1936.

Modern Literature III—After 1780.

Poetry:—

Wordsworth: Tintern Abbey,* Immortality Ode,* Ode to Duty* and Selections in Peacock.

Coleridge: Selections in Peacock.

Keats: The Odes* and Selections in Peacock.

Rossetti: Selections in Peacock.

Browning: Rabbi Ben Ezra, Saul,* Abt Vogler*, Andrea del Sarto, Pippa Passes.

Tennyson: In Memoriam.

Arnold: The Scholar Gipsy,* Thyrsis.*

Morris: Defence of Guinevere and other Poems.

Prose:—

Scott: The Heart of Midlothian.

Austen: Pride and Prejudice, Emma.

Lamb: Essays of Elia,* First Series; Letters.

Hazlitt: The Spirit of the Age.

Newman: The Idea of a University.

Pater: Appreciations.

Stevenson: Familiar Studies of Men and Books.

Thackeray: Vanity Fair.

Meredith: Richard Feverel, The Egoist.
Essay on Comedy.*

Hardy: Tess of the D'urbervilles, Return of the Native.

Drama:—

Arnold: Merope.*

Shaw: St. Joan.

Drinkwater: Abraham Lincoln.

Special periods.—

Set Books as for 1935.

Note.—Candidates are required to show a detailed knowledge of the books marked with an asterisk.

BRANCH VII.

SANSKRIT LANGUAGE AND LITERATURE.

1936 and 1937.

General Part.

The same as for 1935.

Special Part.

Sankhya, Yoga, Nyāya and Vaiśeṣka.

Isvarakrṣṇa : Sankhya-karikas with Gaudapada's Vrtti
Udayanacarya : Nyaya-kusumanjali, Stabakas I and II
Kaṇada : Vaisesika-sûtras (whole) Text only
} (Chowkhamba Book Depôt, Benares).

Patañjali : Yoga-sûtras with Bhōja Vṛtti (Anandasrama Press, Poona).

Gautama : Nyaya-sûtras with Vatsyayana's Bhaṣya, Chapts. I and II only (Lazarus & Co., or Chowkhamba Book-Depôt, Benares.)

Visvanathapancanana : Nyaya-siddhanta-muktavali (whole) (Nirnaya Sagara Press, Bombay).

Books recommended for study—

Creighton : An Introductory Logic.

A. S. Rappoport : A Primer of Philosophy (John Murray, London.)

Laura Brackenbury : A Primer of Psychology. (do)

F. Müller : The Six Systems of Indian Philosophy.

J. Davies : Hindu Philosophy.

R. Garbe : Philosophy of Ancient India.

J. C. Chatterji : Hindu Realism.

A B. Keith : Sankhya System and 'Indian Logic and Atomism.'

Tarakasamgraha with Dipika, edited by Y. V. Athalye (Bombay Sanskrit Series.)

A Primer of Indian Logic—published by P. Varadachar, Booksellers, 8, Linghi Chetti Street, Madras.

Books recommended for consultation—

Brajendranath Seal : The Positive Sciences of the Ancient Hindus.

Satiscandara Vidyabhuṣaṇa : 'The History of Indian Logic.'

H. Ui. : The Vaiseṣika Philosophy according to the Das'apadārthas'astra.

Sugiura : Hindu Logic as preserved in China and Japan.

W. James : Pragmatism.

Flint : Theism.

Flint : Anti-theistic Theories.

Balfour: Theism and Humanism.

Hobhouse : Theory of Knowledge.

Roger : Introduction to Modern Philosophy.

A. S. Pringle Pattison : The Idea of God in the Light of Recent Philosophy.

Madhavacarya: Sarvadarsanasangraha.

Gangeśa: Tatvacintāmani.

Yōga-sutras with Vyasa-bhasya : Trans. Eng. by Haughton Woods —Harward Oriental Series.

N.B.—Students are informed that all the Oriental books in the above lists could be procured through the Oriental Books Supplying Agency, 15, Shukrawarpet, Poona, or through the Proprietor, The Punjab Sanskrit Book-Depot, Said Mitha Bazaar, Lahore.

BRANCH VIII.

ARABIC LANGUAGE AND LITERATURE, 1936.

The same as for 1935.

BRANCH VI.

ENGLISH LANGUAGE AND LITERATURE, 1937.

The same as for 1936.

BRANCH VII.

SANSKRIT LANGUAGE AND LITERATURE, 1937.

The same as for 1936.

BRANCH VIII.

ARABIC LANGUAGE AND LITERATURE, 1937.

The same as for 1936.

Branch V.—Two Languages other than English.

MARATHI.

1935.

Advanced Composition.

1. Kelkarkrit Lekha Sangraha:—
   Part I, pages 1—95.
   Part II, pages 126—289.
   Part III, Essays 1, 2, 9, 10, 11, 12 and 16.
   Part IV, Essays 1, 2, 3, 10, 14 and 17.
2. Nibhandhamala by V. K. Chiplunkar, B.A.
   (a) Marathi Bhashhechi Sampratchi—Sthiti, pages 1—11.
   (b) Vidwatwa ani Kavitwa, pages 22—43.
   (c) Itihasa, pages 54—95.
   (d) Vakritwa, pages 242—329.
3. Duyanopasana by S. N. Banhatti, M.A., LL.B.
4. Maharashhtracha Samskritik Itihas by S. D. Pendse, M.A., M.O.L.

For Comparative Grammar.—Gaurian.

Text-books recommended for study:—

1. Dr. R. G. Bhandarkar's Wilson Philological Lectures (1877) on Sanskrit and Prakrit Languages derived from it. (Bhandarkar's Research Institute, Poona).
2. Dr. Gune's Introduction to Comparative Philology—Part I and Part V.
3. History of Marathi Literature by Nicol Macnicol, M.A., D.Litt., Poona. (The Heritage of India Series).

ORIYA.

1935, 1936 and 1937.

Oriya taken as one of the two languages other than English—Branch (V).

The same as under the Group (v) of the B.A. Degree Examination of 1935 with the omission of the books prescribed under the related subjects and languages and with the addition of the following books for advanced composition paper:—

1. Aryajeevana by Nilakantha Das, M.A.
2. Prachina Utkala by Jagabhandu Simh.
3. Bayi Mahanty Panji by Gopalachandra Praharaja.

TAMIL.

Books prescribed:—

1935.

Toluvūr Vēlāyudha Mudaliyar's Tiruvēṅkāṭṭaḍigal Charittiram. (Ripon Press, Madras).

Mullaippaṭṭāraychi, by Swami Vedachalam, Pallavaram.

Essay on Kambar, by T. Chelvakesavaraya Mudaliyar.

TELUGU.

1935.

BRANCH V.

Set books for Additional paper in Composition:—

Seetaramanjaneyamu (Whole).

Narasabhupaliyamu (Whole).

KANARESE.

1935.

BRANCH V.

The same as those for Part III, Group V of the B.A. Degree Examination of 1935.

Set books for Additional Paper in Composition:—

i. Kavi Samaya by M. A. Ramanuja Ayyangar. (Kavya Kalanidhi Office, Mysore).

ii. Nataka Kale by Atmaram Sastri Odlamane. (Bala Sahitya Mandala, Mangalore).

iii. Karnataka Gatha Vaibhava, by V. B. Alur, B.A., LL.B., (Jaya Karnataka Office, Dharwar).

iv. Sarvajna Padyagalu edited by C. D. Uttangi. (Sri Sankar Book Depot, Malamaddi, Dharwar).

MALAYALAM.

1935.

Set books for Additional Paper in Composition:—

Poetry—

1. Gouricharitam—Prabhandham (Secretary of the Malayalam Improvement Committee, Trichur).
2. Kalakeyavadham,, by Kottayath Thampuran (by Publisher).
3. Girija Kalyanam Kilipattu by Unnayi Varier (Government Press, Trivandrum).

Prose—

Sārasimham—by Karthika Thirunal Thampuratti, Anantapuram Kottaram, Arippad, Travancore.

ARABIC, PERSIAN AND URDU.

1935, 1936 and 1937.

Set books for Additional paper in Composition:—

Arabic.—

Muqaddima-i-Ibni Khaldun.

Persian.—

Iran Nameh excluding Old Persian.

Urdu.—

Fasanai-Azad, Vol. I.

Tahzibul Akhlaq, Vol. II.

Branch V.—Two Languages other than English.

MARATHI.

1936.

Advanced Composition.—

1. Moropant Charitra and Kavya Vivechan by L. R. Panjarkar, B.A.
2. Mayur Kavya Vivechana by Banahatti, M.A., LL.B.
3. Bhasha Shastra and Marathi Bhasha by Kulkari.
4. Kelkar Krit Lekhasangraha, Part II, pages 126—289, Part III—Essays 1, 2, 9, 10, 11, 12 and 13 and Part IV—Essays 1, 2, 3, 10, 14 and 17.
5. Nivadak Lekha by N. G. Chapekar, B.A., LL.B.
6. Samskrit Kavi Panchaka by Chipunkar.

ORIYA, 1936.

The same as for 1935, (*see* page 526).

TAMIL.

1936.

Set books for Additional Paper in Composition:—

1. Pattinappalai Arayechi by Swami Vedachalam, Pallavaram.
2. Tamil Sangam Age by Mahamahopadhyaya V. Swaminatha Ayyar, (Madras University Publication—C. Coomaraswami Naidu & Sons, G. T., Madras).
3. Essay on Tamil by T. Chelvakesavaraya Mudaliyar, M.A., (T. P. Alagan, Perambur, Madras).

TELUGU, 1936.

Additional Paper in Composition.—

The same as for 1935, (i.e.).—

Seetaramanjaneyamu (whole).

Narasabhupaliyamu (whole).

KANARESE.

1936.

BRANCH V.

The same as those for Part III, Group V of the B.A. Degree Examination of 1936.

Set books for Additional Paper in Composition:—

i. Kavi Samaya by M. A. Ramanuja Ayyangar. (Kavya Kalanidhi Office, Mysore.)
ii. Nataka Kale by Atmaram Sastri Odlamane. (Bala Sahitya Mandala, Mangalore.)
iii. Karnataka Gatha Vaibhava, by V. B. Alur, B.A., LL.B. (Jaya Karnataka Office, Dharwar.)
iv. Sarvajna Padyagalu edited by C. D. Uttangi. (Sri Sankar Book Depot, Malamaddi, Dharwar.)

MALAYALAM, 1936.

Will be prescribed later, if required.

ARABIC, PERSIAN AND URDU, 1936.

The same as for 1935, (*Vide* page 527).

BRANCH V—TWO LANGUAGES OTHER THAN ENGLISH, 1937.

MARATHI, 1937.

Will be prescribed later.

ORIYA, 1937.

The same as for 1936, (*vide* page 528).

TAMIL, 1937.

The same as for 1936, (*vide* page 528).

TELUGU, 1937.

Will be prescribed later.

KANARESE, 1937.

The same as those to be prescribed for Part III—Group (v) of the B.A. Degree Examination of 1937, with the addition of the following books for additional paper in Composition—

Additional Paper in Composition.—

The same as for 1936, (i.e.).—

(i) Kavi Samaya by M. A. Ramanuja Ayyangar, (Kavya Kalanidhi Office, Mysore).
(ii) Nataka Kale by Atmaram Sastri, Odlamane, (Bala Sahitya Mandala, Mangalore).
(iii) Karnataka Gatha Vaibhava, by V. B. Alur, B.A., LL.B., (Jaya Karnataka Office, Dharwar).
(iv) Sarvajna Padyagalu edited by C. D. Uttangi. (Sri Sankar Book Depot, Malamaddi, Dharwar).

MALAYALAM, 1937.

Will be prescribed later.

Branch IX.

TAMIL, 1936.

History of Language and Philology.

For Study.—

Vendryes: Language, A Linguistic Introduction to History.
Gune: Introduction to Comparative Philology.

Caldwell: A Comparative Grammar of the Dravidian Languages.

Chatterji, S. K.: The Origin and Development of the Bengali Language, Volume I. Introduction Section 1—10 and Appendix B.

Dravidic Studies, Nos. 1—4.—Madras University Publications. (The Superintendent, Government Press, Mount Road, Madras).

Grierson: Linguistic Survey, Volume IV.

For Consultation.—

Jesperson: Language, Its Origin, Theory and Development.

Sweet: The History of Language (Temple Primer).

Bloomfield: Introduction to the Study of Language, (G. Bell & Sons.)

Slater: Dravidian Elements in Indian Culture.

Bagchi, P. C.: Pre-Aryan and Pre-Dravidian in India.

History of Literature and Literary Criticism.

For Study.—

A. Kumaraswami Pillai: Tamil Pulavar Charittiram.

K. S. Srinivasa Pillai: Tamil Varalaru, Parts I and II.

G. Duraiswami Pillai: Tamil Sangam Literature.

K. Subrahmanya Pillai: Tamil Ilakkiya Varalaru.

Mahamahopadhyaya V. Swaminatha Ayyar: Tamil Sangam Age.

M. Srinivasa Ayyangar: Tamil Studies.

For Consultation.—

Worsfold: Principles of Criticism.

Gayley & Scott: Methods and Materials of Criticism.

Hudson: Introduction to the Study of Literature.

Literature—General.

Pattu Pattu: Malai Padu Kadam—

Purananuru	..	First 100 stanzas.
Kalittokai	..	„ 20 stanzas.
Tirukkural	..	„ 25 chapters.

Kamba Ramayanam—Ayodhya Kandam.

Periya Puranam—Tirunavukkarasar Puranam.

Thakka Yaga Parani, pages 1—100.

Kalambaga Uruppugal in Tiruvaranga Kalambakam, Tiruvarunai Kalambakam and Tirukkalambakam.

Prose.—

Sethu Nadu and Tamil by R. Raghava Ayyangar, (Madura Tamil Sangam).

Kapilar by N. M. Venkataswami Nattar, Trichinopoly.

Udayanan Charitham by Mahamahopadhyaya V. Swaminatha Ayyar, Triplicane, Madras.

Alwargal Kalanilai by M. Raghava Ayyangar, Tamil Lexicon Office, Madras.

Kambar by T. Chelvakesavaroya Mudaliyar, M A. (T. P. Alagan, Perambur).

Literature—Special.

Silappathikaram and Manimekhalai.

Grammar, Prosody and Poetics:—

Nannul—Sankaranamacchivayar Urai.

Nambi Akapporul (Madura Tamil Sangam).

Tolkappiyam—Pura Thinai Iyal. Ilampuranar Urai.

Yapparunkala Karikai.

Ilakkanavilakkam—Pattiyal.

Dandi Alankaram (Old commentary)—Porul Ani Iyal.

South Indian History and Inscriptions:—

Will be published later.

TELUGU.

Will be prescribed later, if required.

KANARESE.

Will be prescribed later.

MALAYALAM.

Will be prescribed later.

BRANCH IX.

A DRAVIDIAN LANGUAGE AND ITS LITERATURE, 1937.

TAMIL.

History of Language and Philology.—

For Study.—

Caldwell: A Comparative Grammar of the Dravidian Languages.

Dravidic Studies, Nos. 1—4.—Madras University Publications—(the Superintendent, Government Press, Mount Road, Madras).

Grierson: Linguistic Survey, Volume IV, Dravidian Languages.

Chatterji, S. K.: The Origin and Development of the Bengali Language, Volume I, Introduction, Sections 1—40 and Appendix B.

Gune: Introduction to Comparative Philology.

Vendryes: Language, A Linguistic Introduction to History.

For Consultation.—

Jesperson: Language, Its Origin, Theory and Development.

Sweet: The History of Language (Temple Primer).

Bloomfield: Introduction to Study of Language. (G. Bell & Sons).

Slater: Dravidian Elements in Indian Culture.

Bagchi, P. C.: Pre-Aryan and Pre-Dravidian in India.

History of Literature and Literary Criticism.—

For Study.—

K. S. Srinivasa Pillai: Tamil Varalaru, Parts I and II.

Mahamahopadhyaya V. Swaminatha Ayyar: Tamil Sangam Age.

K. Subrahmanya Pillai: Tamil Ilakkiya Varalaru.

For Consultation.—

A. Kumaraswami Pillai: Tamil Pulavar Carittiram.

G. Duraiswami Pillai: Tamil Ilakkiyam, Sanga Kalam.

M. S. Purnalingam Pillai: History of Tamil Literature.

M. Srinivasa Ayyangar: Tamil Studies.

Worsfold:—Principles of Criticism.

Gayley & Scott: Methods and materials of Criticism.

Hudson: Introduction to the Study of Literature.

Literature—General.—

Poetry.—

Pattuppattu—Malaipadukadam.

Purananuru—Stanzas 1—100.

Kalittokai—Palaikkali.

Tirukkural—Chapters 1—24.

Kambaramayanam—Ayodhyakandam.

Periyapuranam—Tirunavukkarasunayanar Puranam.

Takkayagapparani—pages 1—100.

Kalambaka Uruppukal in Tiruvarangakkalambakam, Tiruvarunaikkalambakam and Tirukkalambakam.

Prose.—

Alwarkal Kalanilai, Part I, by M. Raghava Ayyangar, Tamil Lexicon Office, Madras.

Setu Nadu and Tamil by R. Raghava Ayyangar. (Madura Tamil Sangam).

Udayanan Carittiraccurukkam by Mahamahopadhyaya V. Swaminatha Ayyar, Triplicane, Madras.

Kambanadar by T. Chelvakesavaraya Mudaliyar. (T. P. Alagan, Perambur, Madras).

Kapilar by N. M. Venkataswami Nattar, Annamalai University.

Literature—Special.—

Cilappadikaram.

Manimekalai.

Grammar, Prosody and Poetics.—

Nannul—Sankaranamacchivayar Urai.

Nambi Akapporul (Madura Tamil Sangam).

Tolkappiyam, Purattinai Iyal, with Ilampuranam.

Yapparunkalakkarikai.

Dandiyalankaram, Porulani Iyal, with old Commentary.

Ilakkanavilakkam, Pattiyal.

South Indian History.—

Books recommended for Study.—

V. Kanakasabhai: The Tamils Eighteen Hundred Years Ago.

K. N. Sivaraja Pillai: The Chronology of the Early Tamils.

K. V. Subrahmanya Ayyar: Historical Sketches of Ancient Dekhan.

K. A. Nilankata Sastri: The Pandyan Kingdom.

S. Krishnaswami Ayyangar: Ancient India.

R. Gopalan: The Pallavas of Kanchi.

Inscriptions.—

K. A. Nilakanta Sastri: Studies in Chola History and Administration. Studies Nos. 3—7, together with the inscriptions noted therein.

Dr. S. Krishnaswami Ayyangar: Evolution of Hindu Administrative Institutions in South India (Meyer Lectures).

TELUGU.

Will be prescribed later, if required.

KANARESE.

Will be prescribed later, if required.

MALAYALAM.

Will be prescribed later, if required.

APPENDIX V.

B. Sc. DEGREE EXAMINATION.

Syllabuses.

(i) Mathematics—Main.

The same as for B.A. (Pass) Main (i.e., i-b, omitting optional Subject) with the addition of—

Differential equations, ordinary and partial.

The standard to be as in Murray's Differential Equations; when those parts are omitted which concern only the student of Pure Mathematics.

Mathematics—Subsidiary.

Algebra and Trigonometry. Simple practical applications of the binomial, exponential, and logarithmic series, compound interest law.

Complex numbers, their geometrical representation; de Moivre's theorem and its immediate applications. Use of the expansion of the sine and of the cosine in power series.

Hyperbolic functions.

Analytical Geometry as for B.A. excluding the general equation of the second degree and polar equations.

Calculus—The same as for B.A. with the following addition:—

Elementary differential equations with special reference to application to Physics and Chemistry. Standard as in Lamb's Infinitesimal Calculus.

In each of these two subjects (Algebra and Trigonometry, and Calculus), candidates will be expected to show familiarity with the graphs of the principal functions occurring in Physics and Chemistry.

(ii) Physics—Main.

The course includes a more extended study of the matter included in the Intermediate course and in addition the following:—

Dynamics.—Resolution and composition of displacements, velocities and accelerations. Curves of speed and velocity diagrams. Motion of a particle in one plane under constant accele-

ration. Simple harmonic motion; composition of simple harmonic motions. Angular velocity and angular acceleration; moment of velocity.

Absolute units of force. Resolution and composition of forces. Angular momentum: moments of inertia in simple cases. The pendulum; determination of *g*. Work, energy, conservation of energy; energy diagrams. Impact; the ballistic pendulum. Simple cases of the dynamics of strings. Dimensions of dynamical units. Conditions of equilibrium of a body acted on by forces in one plane. Moments, couples. Centre of mass. The theory of simple machines. Law of friction. Graphical methods with simple applications. Smooth hinges. Virtual work.

Properties of matter.—Gravity, gravitation. Elasticity, Hooke's Law. Compressibility of gases (at high and low pressure) and liquids. Compressibility and rigidity of solids; the elastic limits. Strains due to simple longitudinal pull; Young's modulus and its expression in terms of *k* and *n*. Bending in one plane of bars of simple cross sectional area; flexural rigidity: application to girders. Simple twisting of wires of circular cross section by couple in plane at right angles to length; torsional rigidity; applications to torsion balance, and shafts.

Diffusion of liquids and gases; analogy with conduction of heat. Osmosis. Viscocity. Pressure of a gas and its explanation on the kinetic theory. Avogadro's hypothesis; Van der Waal's equation.

Hydrostatics.—Thrust of fluid on plane and curved surfaces. Centre of pressure in simple cases. Floating bodies and conditions of stability. Properties of gases; determination of heights by barometer. Pumps, pressure gauges, and hydrostatic machines. Capillary phenomena and their explanation by surface tension; general theory of surface tension.

Heat.—The methods of calorimetry and thermometry. Vapour pressures, critical temperature and pressure. Conduction and diffusion of heat and the determination of constants. Kinetic theory of gases: simple applications. Radiation and absorption; laws of cooling. Theory of exchanges; methods of measuring radiation. Laws of thermo-dynamics. Simple applications.

Light.—Illumination; photometry. Archomatism in lens systems; direct vision spectroscope.

Velocity of light. The wave theory; simple interference phenomena. Huygens' principle. Explanation of straight line propagation, reflexion and refraction of light. Action of mirrors, lenses, etc., reviewed from this standpoint. Simple diffraction phenomena. Gratings and wave length determination. Spectrum

analysis; study of spectra. Doppler's principle. Double refraction and polarization of light; rotatory polarization; simple applications.

Magnetism.—Forces on a magnet in a magnetic field. Determination of the axis and moment of a magnet. Magnetic potential; level surfaces. Interaction of two short magnets; determination of field strength. Magnetic shell; its potential energy in magnetic field. Total normal induction; Gauss' theorem; number of lines of force. Magnetic induction in iron, etc. Theory of magnetism.

The magnetic field of the earth; the magnetic elements and their variations; the compass and its corrections.

Electricity.—Electric capacity; specific inductive capacity. Distribution of electricity on surface of conductors; images. Value of electric force in simple cases of distribution. The mechanical force on charged conductors; energy of electrified systems. The dielectric medium; dielectric displacement currents.

Wheatstone's bridge; specific resistance; resistance thermometers. Conductivity of electrolytes; ionization; migration phenomena; accumulators, standard cells. The potentiometer system of measurement. Thermo-electricity; application of thermo-dynamics; thermo-electric diagrams. Electro-magnetic induction; co-efficients of induction; induction coils. Energy of circuit carrying current when placed in a magnetic field; mechanical force on conductors carrying current; moving coil instruments. Lenz's law; illustration from dynamos and motors. Determination of current, resistance and E. M. F. in absolute measure. The discharge of a condenser: electric waves. The triode valve.

The elementary theory of the continuous current dynamo and motor and of the alternate current dynamo. General principles of the application of electricity to lighting, power transmission, telegraphy, etc.

Sound.—The transmission of energy through material media by wave motion; speed of propagation of waves of permanent type. Nature of musical sound; pitch, scales. Reflexion and refraction of sound; influence of wave length. The vibration of strings, bars, plates, and gas columns; resonance. Interference and diffraction phenomena. Analysis of sound. Measurement of wave length, velocity and pitch.

A practical examination will be held to test the candidate's acquaintance with the phenomena and his ability to show them, as well as his ability to make physical measurements. At the practical examination candidates must submit to the Examiner or Examiners their laboratory note-books duly certified by their professors or lecturers as a *bona fide* record of work done by the candidates.

Text-Books.

1935.

The same as for the B.A. Degree Examination, with the addition of the following books:—

Study:—

Ivor B. Hart: Heat and Thermodynamics.

Draper: Heat and Thermodynamics.

Hutchinson: Magnetism and Electricity.

Reference:—

Houstoun: Light.

1936.

MAIN.

Books for Study.—

The same as for B.A. (Main), 1935, with the addition of the following books:—

1. Hutchinson: Magnetism and Electricity.
2. Saha and Srivatsava: Heat for Junior Students.

Books for reference.—

The same as for B.A. (Main), 1935, with the addition of the following books:—

1. Hart: Introduction to Advanced Heat.
2. Draper: Heat and Thermodynamics.
3. Houstoun: Treatise on Light.

Physics—Subsidiary.

Properties of Matter:—

Compressibility of gases at high and low pressure. Diffusion of liquids. Osmosis. Experimental study of viscosity. Pressure of a gas, and its explanation on the kinetic theory. Avogadro's hypothesis; Vander Waal's Equation.

Hydrostatics:—

Pumps, pressure gauges and Hydrostatic machines. Capillary, phenomena and their explanation by surface tension.

Heat:—

Expansion, calorimetry and thermometry. Vapour pressure; critical temperature and pressure. Conduction of heat and determination of conductivity. Radiation and absorption; laws of cooling. Theory of exchanges; methods of measuring radiation. Mechanical equivalent of heat; Carnot's Theorem. absolute scale of temperature.

Light:—

Velocity of light; explanation of reflection and refraction of plane waves on plane surfaces by the wave theory. Colours of thin films; Newton's rings. Plane transmission gratings and determination of wave length at normal incidence. Spectrum analysis. Plane polarised light; the Saccharimeter.

Electricity:—

Wheatstone's Bridge: specific resistance; resistance thermometers. Conductivity of electrolytes; ionization, and migration phenomena. Accumulators and standard cells. The Potentiometer system of measurement. Thermo-electric phenomena. Electro-magnetic induction. Induction coils. Experimental wireless and X-rays.

Magnetism:—

Determination of the axis and moment of a magnet. Determination of field strength. Magnetic induction in iron, etc. Theory of magnetism.

The magnetic field of the earth; the magnetic elements and their determination.

Sound:—

Nature of musical sound. The vibration of strings and gas columns. Resonance. Interference of sound. Measurement of wave length, velocity and pitch.

Books for Study:—

1935 and 1936.

The same as for B.A. (New)—Subsidiary—1935 (*Vide* page 386).

Mechanical Engineering and Electrical Engineering as Subsidiary to be taken with Physics as Main.

The same as for B.A. Subsidiary—*Vide* pages 390—395.

(iii) Chemistry—Main.

(a) *Chemistry—General and Historical.*

The atomic theory, Valency. Methods of determining equivalent, atomic and molecular weights. Atomic Numbers. Isotopes. Properties of gases. Transition phenomena from the gaseous to the liquid state. Properties of solutions, osmotic pressure; vapour pressure and freezing and boiling points. Velocity of re-actions and the law of Mass Action; Phase rule. Theories of the Colloidal state, theory of electrolytic dissociation. Transport numbers, conductivity and electro-motive force. Thermo-Chemistry. Relation of physical properties to chemical constitution.

(b) *Inorganic Chemistry*:—

The descriptive portion of Inorganic Chemistry will include the elements and their compounds studied from the standpoint of the Periodic classification omitting the detailed study of rare metals and their compounds.

(c) *Organic Chemistry*—

Historical development of the Science—Methods of Purification and the criteria of purity of organic compounds—Analysis of organic compounds. Calculation of empirical and molecular formulæ. Constitutional formulæ. Isomerism and Polymerism.

Paraffins; halogen substitution products. Alcohols. Alkylesters of inorganic acids; Ethers. Aldehydes and ketones, and their derivatives. Fatty acids; their esters, chlorides, amides and anhydrides. Olefines and acetylenes. Unsaturated alcohols. Aldehydes, ketones and acids. Amines. Urea and Urethanes. Cyanogen compounds. Organo-metallic derivatives. Glycol and Glycerol and their derivatives. Dibasic acids of the Oxalic series. Hydroxy monobasic and polybasic acids. Stereoisomerism of carbon compounds. Diketones and ketonic acids and esters. Amino acids and polypeptides. Sugars, starches and celluloses. Polymethylenes.

Benzene and its homologues. Chloro-nitro-amino and sulphonic derivatives of aromatic hydro-carbons. Phenols, Azoxy-Azo and Hydarxo compounds. Diazobodies and their reactions. Benzyl alcohol. Benzaldehyde. Benzoic acid and their derivatives. Acetophenone and Benzophenone and their derivatives. Polysubstitution products, e.g., di—and triphenols, etc., and poly-carbolic acids, hydroxy aldehydes, hydroxy ketones, hydroxy acids.

Laws of Orientation of aromatic substitution products Dephenyl methane, phenyl ethylene and Diphenyl ethylene and their derivatives. Triphenyl methane, phthaleins and rosanilines. Naphthalene. Anthracene and Phenanthrene and their chief derivatives.

(d) *Practical Chemistry.*—

(1) Qualitative analysis, including analysis of mixtures of mineral substances.

(2) Quantitative analysis, including (a) the estimation of alkalis, alkaline carbonates, and acids by neutralization, (b) determinations involving the use of the permanganate, dichromate, iodine and

thiosulphate processes, (c) the estimation of chlorides and cyanides by titration with silver nitrate, and also with thiocyanate, (d) gravimetric determinations of iron, calcium, copper, silver, lead, sulphuric acid, hydrochloric acid, phosphoric acid.

Candidates at Examinations will be required to be able to standardize the solutions for volumetric analysis.

(3) The determination of molecular weights.

(4) Preparation of at least six simple organic substances, e.g., chloroform, Ether, Ethyl acetate, acetic anhydride, Urea, Nitrobenzene, aniline, Phenol, Benzoic acid (from Toluene) Iodobenzene, salicylic acid, an azo-dye, etc.

(5) Identification by chemical and physical tests of the following organic compounds:—

Methyl and Ethyl alcohols; acetone; chloroform; Formic, acetic, oxalic, tartaric, citric, benzoic and phthalic acids; ethyl acetate and ethyl benzoate; urea, glucose, benzene and toluene, aniline, phenol, resorcinol, pyrogallol, benzaldehyde, acetophenone, naphthalene and naphthols.

Books for Study—

1935 and 1936.

The same as for B.A.—Main—(New), 1935 and 1936 respectively—(*Vide* page 377).

Chemistry—Subsidiary.

The Syllabus will include:—

(a) *General Chemistry*:—

The Atomic theory, Valency, Properties of solutions; osmotic pressure; Vapour pressure and freezing and boiling points. Velocity of reactions and the Law of Mass Action. Theory of electrolytic dissociation; transport numbers; conductivity. Thermo-chemistry. Relation of physical properties to chemical constitution.

(b) *Inorganic Chemistry*.—

The common elements studied in an elementary way from the standpoint of the Periodic classification.

(c) *Organic Chemistry.*—

Historical development of the Science. Purification of organic compounds, Qualitative and quantitative analysis, Isomerism, Polymerism.

Methane, ethylene, acetylene, methylhalides, methyl alcohol, ethyl alcohol, ether, acetaldehyde, acetone, acetic acid, ethyl acetate, acetamide, oxalic acid, glycerine, amines, fats, oils and soaps.

Benzene, nitrobenzene, aniline, diazotisation, phenol, toluene, benzyl alcohol; benzaldehyde, benzoic acid.

(d) The course in Practical Chemistry shall be the same as that prescribed for the present B.A. Chemistry —Subsidiary (*vide* p. 386).

Books for Study—

The same as for B.A. (New)—Subsidiary—(*Vide* page 386).

1936.

Barrets' Physical Chemistry be removed from the list of books for study.

(iv) Botany—Main.

1. The main points of structure, development, life-history and the taxonomic relation of the following groups in general and the genera in particular:—

Bacteria.

Cyanophyceae.

Lyngbya, Gleocapsa, Oscillaria, Anabaena, Nostoc, Rivularia.

Chlorophyceae.

Chlamydomonas, Gonium, Pandorina, Eudorina, Pleodorina, Volvox, Ulothrix, Oedogonium, Ulva, Enteromorpha, Coleochæte, Protococcus, Scenedesmus, Hydrodictyon, Cladophora, Vaucheria, Caulerpa, Botrydium, Spirogyra, Mougeotia, Zygnema, Desmids, Chara, Nitella, Diatoms.

Phaeophyceae.

Ectocarpus, Fucus, Sargassum, Dictyota, Padina.

Rhodophyceae.

Batrachospermum, Liagora, Polysiphonia, Gracilaria.

Phycomycetes.

Pythium, Phytophthora, Albugo, Mucor or Rhizopus, Pilobolus.

Ascomycetes.

Sphærotheca, Pyronema, Erysiphe, Peziza, Xylaria, Saccharomyces.

Basidiomycetes.

Ustilago, Puccinia, Agaricus, Polyporus, Lycoperdon, Ithyphallus

Lichens.

Bryophytes.

Riccia, Marchantia, Thalloid and leafy Jungermanias, Mosses.

Pteridophytes.—

Selaginella, Lycopodium, Isoetes, Ophioglossum, Gleichenia, Pteris or Nephrodium or Pleopeltis, Marsilia.

Gymnosperms.

Cycas, Pinus.

2. The external morphology of Flowering plants.

3. The general principles of classification and the distinguishing characteristics of the following Natural Orders as used in the Flora of British India:—

Magnoliaceae	Apocynaceae
Ranunculaceae	Asclepiadaceae
Nymphaeaceae	Boraginaceae
Cruciferae	Bignoniaceae
Capparidaceae	Convolvulaceae
Guttiferae	Solanaceae
Malvaceae	Scrophulariaceae
Sterculiaceae	Acanthaceae
Tiliaceae	Labiatae
Geraniaceae	Verbenaceae
Rutaceae	Ficoidaceae
Meliaceae	Amarantaceae
Rhamnaceae	Loranthaceae
Sapindaceae	Euphorbiaceae
Anacardiaceae	Urticaceae
Papilionaceae	Piperaceae
Caesalpiniaceae	Casuarinaceae
Mimosaceae	Orchidaceae
Rosaceae	Scitamineae
Combretaceae	Amaryllidaceae
Myrtaceae	Liliaceae
Lythraceae	Commelinaceae
Cucurbitaceae	Hydrocharitaceae
Umbelliferae	Pontederiaceae
Rubiaceae	Palmae
Compositae	Araceae
Sapotaceae	Cyperaceae
Oleaceae	Gramineae

4. *Plant Physiology.*

The chemical composition of the plant. Materials of plant food and their sources. The nature of soil and the importance of its constituents and the micro-organisms in the soil. Movements of water and gases. Assimilation of carbon and nitrogen. Transpiration and translocation of the assimilated products. Metabolism. Parasitism and other special modes of nutrition. Respiration. The influence of light, heat and gravity. Growth, movements and irritability in plants. Sexual reproduction and its significance. Vegetative reproduction. The phenomena of cross-fertilization. Variation, Heredity, and Mendelism. Theories of Evolution and Origin of Species.

5. *Histology.*

The structure and modes of division of the cell, and the nature of its contents. The nature and mode of origin of plastids, cell-sap and other cell-contents. The physical and chemical properties of protoplasm and cell-wall. The origin, nature, and development of plant tissues. Primary and Secondary tissues, and their distribution in the plant body.

Practical Work

Candidates are expected to be able to make permanent preparations illustrating the form and structure of any plant of the Groups or Orders mentioned in the syllabus and to describe them with sketches sufficient for their identification; to make dissections with the simple microscope of the floral parts of Phanerogams, and to make drawings, construct floral diagrams and refer them to their Natural Orders; to describe in technical language plants belonging to any of the Orders or Groups specified in the syllabus and to have done field work, under tuition for at least five days in each year.

At the practical examination each candidate must submit his laboratory note-books and a collection of named plants collected and preserved by himself.

Botany—Subsidiary.

(1) The structure and life-history of the following:—

Bacteria, Oscillaria, Nostoc, Chlamydomonas, Pandorina, Eudorina, Pleodorina, Volvox, Ulothrix, Cladophora, Oedogonium, Spirogyra, Desmids, Diatoms, Ectocarpus, Fucus or Sargassum, Polysiphonia, Gracilaria, Nitella or Chara, Phytophthora, Rhizopus. Penicillium, Peziza, Puccinia, Agaricus, Riccia, Marchantia Mosses, Selaginella, Fern, Marsilia, Cycas, Pine.

(2) The external morphology of flowering plants.

(3) The general principles of classification and the distinguishing characteristics of the following families:—

Anonaceae, Nymphaeaceae, Leguminosae, Capparidaceae, Malvaceae, Sterculiaceae, Tiliaceae, Geraniaceae, Rutaceae, Meliaceae, Rhamnaceae, Combretaceae, Myrtaceae, Lythraceae, Cucurbitaceae, Umbelliferae, Rubiaceae, Compositae, Apocynaceae, Asclepiadaceae, Convolvulaceae, Solanaceae, Acanthaceae, Labiatae, Amarantaceae, Euphorbiaceae, Urticaceae, Liliaceae, Amaryllidaceae, Scitamineae, Orchidaceae, Palmae, Cyperaceae, Gramineae.

(4) Plant Physiology:—

Chemical composition of the plant; soil, and its nature. Photo-synthesis, Transpiration, Respiration, Metabolism, Heterotrophic Plants, Growth, Movements, Irritability, Reproduction (Sexual and Asexual) Cross and Self Fertilization, Variation, Heredity and Mendelism. Theories of Evolution and the Origin of Species.

(5) Histology:—

Cell-structure and Cell-division, Plastids, Cell-sap, other Cell-contents, the origin, nature and development of plant-tissues, Primary and Secondary tissues and their distribution in the plant body.

V Zoology—Main.

Theory.

I. *Invertebrata.*—The leading features in the structure, the development, the affinities and the classification of the following groups:—

Protozoa — Porifera — Coelenterata — Platyhelminthes—Nemertini—Nematoda—Acanthocephala — Chaetognatha — Rotifera — Brachiopoda—Annelida—Phoronidea—Polyzoa — Arthropoda—Mollusca and Echinodermata.

II. *Chordata.*—The structure and the development of the vertebrate systems to be treated from an evolutionary standpoint.

A general acquaintance with the vertebrate fauna of South India.

III. *Vertebrate Embryology.*—Elements of vertebrate embryology based on a study of the Chick and the Rabbit.

IV. Outlines of the theories of organic evolution and heredity. Principles of Geographical distribution.

Practical.

Candidates will be required to identify and describe specimens and preparations illustrating points of zoological interest in connection with any of the groups mentioned above. They will also be required to make dissections and simple microscopic preparations of any of the following types:—

Amoeba; Paramoecium; Vorticella; Hydra; Earthworm; Leech; Prawn and Crab (external characters); Scorpion; Centipede; Cockroach; Fresh-water Mussel; Ampullaria (Pila); Sepia; Starfish; Amphioxus (preparations and sections); Shark; Frog; Calotes; Pigeon and Hare. Candidates may also be required to identify and draw slides of developing chick. (Dissection of the nerves in the Vertebrate types will not be required except in the case of the Shark, Frog and the Rabbit).

At the practical examination, the candidates must submit their laboratory note-books.

Zoology—Subsidiary.

Theory.

1. *Invertebrata.*—The leading features in the structure, the development, the affinities and the classification (not lower than orders) of the following groups:—

Protozoa, Coelenterata, Platyhelminthes (Trematoda, and Cestoda), Nemathelminthes (Nematoda), Annelida (Chaetopoda and Hirudinæ), Arthropoda, Mollusca (Pelecypoda, Gastropoda, and Cephalopoda) and Echinodermata.

2. *Chordata.*—The structure and the development of the Vertebrate systems to be treated from an evolutionary standpoint as illustrated by representative types.

3. An elementary knowledge of the theories of organic evolution.

Practical.

Candidates will be required to identify and describe specimens and preparations illustrating points of zoological interest in connection with any of the groups mentioned above. They will also be required to make dissections and simple microscopic preparations of any of the following types:—

Earthworm; Nereis (external characters); Prawn (external characters); Cockroach; fresh water mussel (nerves excepted); Pila (external characters); Sepia (external characters); Shark; Frog; Pigeon; Rabbit or Hare; (Dissection of the nerves in the Vertebrate types will not be required except in the case of the frog).

TEXT-BOOKS.

Zoology (Main) and (Subsidiary).

The same as those for B.A. Main and Subsidiary—*Vide* pages 381 and 388.

(vi) Geology—Main.

I. Physiography.

II. Mineralogy and Crystallography.

III. Petrology.

IV. Structural and Field Geology.

V. Stratigraphy and Palæontology.

(i) *Physiography.*

An elementary course of lectures on the following:—

The earth as a planet, its general relations to the other members of the solar system, hypotheses as to the origin of the earth; form, size and density of the earth; its movements and their effects.

The Atmosphere—its composition, height, density, pressure, temperature, moisture and movements; weather, refraction, twilight, and aurora-borealis.

The Hydrosphere—its composition, extent and distribution, depth, temperature and movements.

The Lithosphere—the chief constituents of the earth's crust, the general characters and mode of occurrence of igneous and sedimentary rocks. Condition of the interior of the earth.

Agents of geological change.—The hypogene and epigene agents of geological change, manner and results of their action, especially as influencing earth-sculpture—the destruction, construction, and gradual evolution of the crust of the earth and of its surface features.

Fossils, the main conditions favourable for their formation and preservation and their value as interpreters of the past history of the earth.

Climates—their causes and distribution; glacial epochs.

Simple facts about the geographical and geological distribution of the chief types of plant and animal life. Antiquity of man. Views as to the age of the earth's crust.

(ii) *Mineralogy and Crystallography.*

Symmetry; lines, planes and axes of symmetry; laws of Crystallography; the common holohedral, hemihedral and hemimorphic crystal forms and combinations under each of the six crystal systems; thirty-two types of crystal symmetry; the more important types of twins and twinning; grouping and irregularities of crystals, parting planes, percussion figures, etched figures; zonal characters; drawing of the more important crystal forms; systems of crystal notation, use of the contact and the reflecting Goniometer.

The principal physical properties of minerals which aid in the recognition of the various mineral species.

Isomorphism, paramorphism, pseudomorphism and dimorphism.

The chief characteristics of all the more abundant minerals including both those which are of geological interest and those of commercial value, the more important metallic ores, their modes of occurrence and uses, with special reference to India.

The practical determination of the chief physical and chemical properties of the commoner ores and minerals including the use of the blowpipe.

(iii) *Petrology.*

The classification and distribution of rocks, and the composition, structure, texture origin and mode of occurrence of all the more important types and their metamorphic and altered forms.

Contact and Regional Metamorphism.

The macroscopic and microscopic examination of rocks including the determination of the simple optical characters of the chief rock forming minerals in parallel polarized light. Preparation of diagrams or sketches to represent features observed in rock sections under the microscope. Construction and use of a simple petrological microscope. Mechanical separation of rock-constituents, determination of the nature and history of rocks by means of the microscope.

(iv) *Structural and Field Geology.*

The more important lithological and structural features of rocks, their origin or formation; structure of mineral veins. Diagrammatic sketches of the above.

Construction and Interpretation of geological maps and sections. Tracing of outcrops. Simple problems in Structural Geology.

(v) *Stratigraphy and Palaeontology.*

The chief petrological and palæontological characters of the main geological divisions and the probable physical conditions under which they were formed. Geology of India.

Fossils, their nature and preservation. The main groups of vegetable and animal life and their distribution in time.

The characters, classification and distribution of the more important types of fossils—especially Indian; identification and sketching of fossils; causes for the imperfection of the geological record; the general succession of life as revealed thereby and the general evidence furnished in support of evolution: principles of correlation; Homotaxis.

(vi) *Practical Examination.*

The knowledge of the candidate in accordance with the syllabus will be tested also by practical examination. *Viva voce* questions may be asked, some acquaintance with field work is necessary.

Geology—Subsidiary.

Mineralogy.—The more important rock-forming minerals, their composition and general physical characters and their characteristic alteration products. An elementary knowledge of crystallography is expected

Petrology.—Origin, Classification and the distinctive characters of the leading types of sedimentary, igneous and metamorphic rocks.

Physical Geology.—The general nature and relation of the main agents of geological changes, epigene and hypogene; and their action.

Structural Geology.—Elementary knowledge of rock-structures, stratification, dip, strike outcrop, outlier, inlier, folds, faults, cleavage joints, unconformity and overlap; surface-features as influenced by the nature and disposition of the rocks; water supply.

Stratigraphical Geology.—Rocks as embodying the history of the earth; fossils, their mode of formation and value in Geology and also in the biological sciences; the order of superposition; the geological record, its general conclusions relating to former changes in the physical features of the earth and also in the character of the organic forms; the order of succession of plant and animal life on the surface of the globe; the theory of evolution; an elementary knowledge of Indian Geology is required.

The practical examination may include the interpretation of maps and tectonic models and drawing of sections across them, of representations of scenery and also the identification and description of the more important types of minerals, rocks and fossils including models.

Candidates will be expected to show some acquaintances with field work.

Text books for the Examinations of 1935.

ENGLISH, 1935.

The same Text-books as for B.A. (Honours) Preliminary Examination, 1935, (*Vide* p. 508).

SANSKRIT.

1935 and 1936.

i. Kalidasa's Meghasamdeśa (whole).

ii. Kādambarī Samgraha by Pandit R. V. Krishnamacharyar—Pūrvabhāga; from the last para on page 45, to the end of the para ending with the word '*śrūyatām*' on page 64—third edition, to be had of Pandit R. V. Krishnamacharyar, Sanskrit Pandit, Government College, Kumbakonam.

Text-books for the Examinations of 1936.

ENGLISH, 1936.

The same as for B.A. (Hons.) Preliminary, 1936, (i.e.).—

Prose.—

De Quincey: Essays, omitting 'Rhetoric'. (Wallet Library—Blackie).

Sharma: Ideals and Realities. (Oxford University Press).

Non-detailed Study.—

Dr. Johnson: A Selection from Boswell's Biography. (The Scholar's Library—Macmillan).

George Eliot: Silas Marner.

Laurence Binyon: Akbar. (Peter Davies).—Indian Edition.—(Messrs. Rochouse & Sons, No. 292, Esplanade, Madras).

SANSKRIT, 1936.

The same as for 1935,

ARABIC, 1936.

Manhajul—Adab Volume I.

Kalilah wa Dimnah, 1st 130 pages.

PERSIAN, 1936.

Siyahat Nameh-i-Ibrahim Beg, Chapters Siyahat-i-Qazween and Siyahat-i-Maragha.

Gulistan, Chapters 1, 2, 7 and 8.

URDU, 1936.

Umara-i-Hanud.

Sarguzasht-i-Hayath.

Note:—The above books are available at the Islamiah Book Depot, Kurnool.

TAMIL, 1936.

For Non-detailed Study.—

Saiva Sikhamanigal Iruvar by S. Somasundara Desikar, Tamil Lexicon Office, "Limbdi Gardens", Royapettah, Madras.

Jnanasambandhar by Toluvur Velayudha Mudaliyar. (T. P. Alagan, Perambur, Madras).

APPENDIX VI.

B. Sc. (Honours) Degree Examination.

Syllabus.

Branch (i)—Mathematics.

It is hereby notified that the following is the list of subjects from which special subjects are to be selected under each of the divisions specified in Chapter XLIV, Regulation 2 (i) (c).

Note.—The Board of Studies may from time to time add to the list or exclude subjects from the list, either temporarily or permanently.

Two of the following subjects at the option of the candidate:—

1. *Dynamics*—
   (1) Advanced Rigid Dynamics.
   (2) Theoretical Dynamics.
2. *Astronomy*—
   (1) Planetary and Lunar Theories.
   (2) Physical and Practical.
3. *The Potentials.*
4. *Elasticity.*
5. *Hydrodynamics and Sound*—
   (1) Irrotational motion in liquids.
   (2) Propagation of sound in gases.
6. *Heat*—
   (1) Conduction of Heat.
   (2) Thermodynamics.
   (3) Kinetic Theory of gases.

ASTRONOMY—*General and Elementary Spherical.*

The celestial sphere, astronomical co-ordinates.

The diurnal motion of the heavenly bodies and its explanation by rotation of the Earth. Arguments and proofs for the Earth's rotation. Change of phenomena due to a change of the observer's place on the Earth. Form and size of the Earth. Simple problems connected with the diurnal motion solved by using spherical trigonometry.

The apparent motion of the Sun among the stars. Variations in the length of the day at various places. Twilight. Explanation of the phenomena on the supposition of the annual motion of the Earth round the Sun and proofs for this hypothesis. The determination of the first point of Aries and the obliquity of the Ecliptic. The signs of the Zodiac. Effects of Precession and Nutation.

The Earth's orbit round the Sun. Kepler's laws and Newton's deductions therefrom. True anomaly, mean anomaly and the lengths of the different seasons.

Finding by observation the latitude and longitude of a place, and the error of the clock.

Different units of time and the conversion of one into another. Sundial, Equation of time. Different kinds of years. The Calendar.

Corrections of observations for astronomical refraction, parallax and aberration and the fundamental formulæ embodying these corrections. Determination of parallax of heavenly bodies and their distances.

The Moon. Its orbit round the Earth and the Sun. Its rotation and liberations. Synodic and Sidereal months. Eclipses, and their causes. Ecliptic limits. Number of eclipses in a year. The Saros.

Members of the solar system. Elements of a planet's orbit. Direct and retrograde motions of the planets. Phases of the planets. Transits of planets across the Sun. Comets and meteors.

Principal constellations and stars. Double and multiple stars. Binary Stars. Nebulae.

The observatory. The principal instruments—The astronomical clock. Transit Instrument. The Transit Theodolite. Equatorial. Sextant. The principal errors of the Transit Instrument and their corrections.

Text-books recommended for Study—

(1) Barlow and Bryan's Astronomy.

(2) Young's General Astronomy.

(3) Moulton's Introduction to Astronomy.

(4) Ball's Spherical Astronomy (*easier parts*).

Books for Reference—

(1) Ball's Spherical Astronomy.

(2) Newcomb's Spherical Astronomy.

(3) H. S. Jone's General Astronomy.

FOR B.Sc. (HONS.) DEGREE EXAMINATION.

ASTRONOMY.

Planetary and Lunar Theories.

A. *Dynamical Principles.*—Lagrange's equations and the Lagrangian function. Hamilton's principle and the derivation of the equations of dynamics by the variation of Hamilton's principal function. The ordinary Hamiltonian equations and the canonical equations of dynamics. The necessary and sufficient condition that a change of variables should leave the canonical form of the equations (in the new variables) unchanged. Hamilton's theorem that the principal function satisfies a partial differential equation when the constants of integration of the canonical equations are the initial values of the co-ordinates. The Hamilton-Jacobi partial differential equation and its relationship to the solution of the canonical equations.

B. *Newton's Law of Universal Gravitation and the problem of two particles.*—Kepler's Laws. Newton's deduction of the Law of Gravitation from Kepler's Laws. Possible forms of force in order that a particle may describe a conic section under the action of a central force. Bertrand's first theorem that the only laws of central force which are functions of the distance, under the action of which a particle will describe a conic are $f = \pm \frac{K^2}{r^2}$ and $f = \pm K^2 r$. Bertrand's second theorem that the only laws expressible as functions of the distance, which always give rise to closed orbits, whatever the initial circumstances may be (within a certain range) are $f = \pm \frac{K^2}{r^2}$ and $f = \pm K^2 r$. Evidence of double star systems : Newton's Law of Gravitation universal.

Elliptic motion. The fundamental equations of elliptic motion. Bessel's functions and the relations between the functions of different order. The expansions of the radius vector, the eccentric anomaly; the true anomaly, etc., in terms of the eccentricity of the orbit. Convergence of these series.

C. *The problem of n bodies. Planetary Theory.*—The potential of an attracting system and its relation to the force of attraction. The potential and attraction of a spherical shell at internal and external points. The potential and attraction of any heterogenous spherical body which is made up of concentric spherical shells of the same density. The potential of a body at a distant point. The motion of n heavenly bodies under the law of gravitation is practically the same as the motion of n massive attracting particles. The integrals of the equations of motion of n particles. Jacobi's equation establishing a necessary condition for the stability of the system. Radau's transformation of the form of the kinetic energy and the angular momentum and the resultant form of the equations of motion. Heliocentric co-ordinates and the equations of motion in terms of them. The disturbing function. Advantages and disadvantages of either of the

above two forms of the equations of motion. Solution of the equations $x\frac{(S+m)x}{r^3} = \frac{\delta R}{\delta x}$ by the method of the variation of parameters. Intermediate orbits, Lagrange's brackets and Poisson's brackets and their relationship to each other. The equations of motion expressed in terms of them and the six arbitrary constants of the solution of the equations when R=O. The Lagrange brackets do not contain the time explicitly. The equations of motion expressed in terms of the Lagrange brackets reduced to the canonical form when the six arbitrary constants are the initial co-ordinates and velocities of the moving body. The expression of a Lagrange bracket in terms of the elements of the orbit.

The canonical elements and the canonical form of the equations of motion when these are used. Jacobi's method of solving the equations of elliptic motion by means of the partial differential equation. Jacobi's equations for disturbed elliptic motion. The canonical constants of Jacobi, Delaunay and Poincare. The expressions for the Lagrange brackets and the Poisson brackets containing the elements. The equations for the variation of the elements and the disturbing forces expressed in terms of the partial differential co-efficients of the disturbing function with respect to the element. Elementary proof for the equation for $\frac{da}{dt}$. The difference between secular inequalities and periodic inequalities. Example of a resisting medium. Long period inequalities and short period inequalities. The inequalities of the Jupiter—Saturn system. The major axes and the mean motions of planets have no secular inequalities in the first approximation. The application of Radau's transformation and the resultant formulae to the proof of Poisson's Theorem that the major axes of planets have no purely secular inequalities even in the second approximation. (The proof of Poisson's theorem is excluded.)

D. The Lunar Theory.—The equations of the Sun relative to the centre of gravity of the Earth and the Moon. The motion of the Sun is practically elliptic. The equations of motion of the Moon relative to the earth. Form of the disturbing function. Jacobi's quasi-integral for the Moon's motion (*i.e.*, under the assumption that the Sun moves in a circle). Pontecoulant's equations of motion and their solution up to the second approximation. Variational inequalities. Elliptic inequalities. The Evection. The motion of Perigee. Mean period inequalities The Annual equation. Parallactic inequalities. The latitude equation and the motion of the node. Hill's form of the equations of motion of the Moon. Reduction to one equation giving both the radius vector and the longitude to any desired degree of approximation. The variational curve. Differential equations for small displacements from the variational curve. Hill's equation for the normal displacement, viz., $\frac{d^2N}{dt^2} = \Theta N$. applies to all inequalities independent of the eccentricity of the Sun's

orbit. The infinite detriminant. Motion of the perigee and the node. Outline of the method of finding the displacement of the Moon from the variational curve when the eccentricity of the Sun's orbit and the parallax are not neglected.

(*a*) **Books** recommended for Study—

(1) E. W. Brown's Lunar Theory omitting Chapters IX, X and XIII and greatly restricting Chapter XI.

(2) H. C. Plummer's Dynamical Astronomy. Chapters I, II, IV, XII, XIII, XV and Chapter XX and XXI greatly restricting the last two.

(3) Hill's Lunar Theory as given in Vol. V of Darwin's Scientific Papers.

(*b*) **Books for Reference**—

(1) F. R. Moulton's Introduction to Celestial Mechanics.

(2) Cheyne's Planetary Theory (out of print).

(3) J. C. Adam's Lectures on the Lunar Theory (out of print).

(4) Dziobek's Mathematical theories of Planetary motions.

(5) Poincare's Lecons de Mecanique Celeste Tomes I and II.

(6) Tisserand's Traite de Mecanique Celeste Tomes I and II.

CONDUCTION OF HEAT.

General differential equation for isotropic bodies and for homogeneous bodies. Boundary conditions, uniqueness of solution.

Isothermal surfaces in homogeneous infinite solid. Solution in the following cases of isotropic bodies.

(A) *The Linear Flow.—Complete Study.* (1) The infinite solid. (2) The semi-infinite solid; various problems in constant, variable and periodic temperature at the surface, with application to terrestrial temperature. Reduction of the problem of cooling by radiation to the problem of cooling by conduction. (3) The finite rod, including Fourier's ring. Solution by Fourier's series for constant, variable and periodic temperature at the surface. Angstrom's method for finding conductivity experimentally. (4) Heat sources, instantaneous and continuous; application to semi-infinite solid, finite rod, and Fourier's ring, when there is no radiation (5) Application of Green's function in heat to simple cases of linear flow, not including radiation.

(B) *The flow in more than one dimension.—Simple study.* Simple cases of steady and variable temperature for infinite solid, semi-infinite solid and finite rod. Application of conjugate functions to problems of steady temperature in two dimensions.

(C) *Radial flow.*—The infinite and semi-infinite circular cylinder with or without radiation, initial temperature being constant or a function of the distance only. The sphere, with or without radiation, initial temperature being a function of the distance only. Spherical surface source.

(D) ***Conduction of heat in crystalline bodies.***

Standard to be found in Carslaw:—

Chapters IX—XIV nearly complete.

Chapters XV—XVIII greatly restricted.

Books recommended:—

(1) H. S. Carslaw:—Mathematical theory of the conduction of heat.

(2) J. Boussinesq:—Theorie Analytique de la chaleur.

(3) H. Poincare:—Theorie Analytique de la propagation de la chaleur.

(4) L. R. Ingersoll and O. J. Sobel:—An Introduction to the Mathematical Theory of Heat Conduction.

(5) Feurier:—Theorie Analytique de la chaleur (English translation by Freeman.)

(6) Preston:—Theory of Heat.

Note:—**For Syllabuses in other subjects under this Branch** *Vide* **Appendix IV, (pages 463—474).**

Branch ii—Physics.

Books for Study:—

Poynting and Thompson: Properties of Matter.

Newman and Searle: Properties of Matter.

Barton: Text Book of Sound.

Richardson: Sound.

Preston: Theory of Heat.

Preston: Theory of Light.

Clay: Treatise on Practical Light.

Starling: Electricity and Magnetism.

Worsnop and Flint: Practical Physics.

Reference:—

Cox: Mechanics.

Lamb: Dynamics.

Barton: Analytical Mechanics.

Edser: General Physics.

Searle: Experimental Elasticity.

Poynting and Thompson: Heat.

Mann: Manual of Advanced Optics.

Thompson: Elements of Electricity and Magnetism

Pidduck: Treatise on Electricity.

Millikan: The Electron.

Watson: Practical Physics.

Ewing: Strength of Materials.

Lamb: Dynamical Theory of Sound.

Schuster: Theory of Optics.

Baly: Spectroscopy.

Jeans: Dynamical Theory of Gases.

Jeans: Electricity and Magnetism.

Gray: Absolute Measurements in Electricity, and Magnetism (Revised Edition).

Drude: Theory of Optics.

Clayton: Alternating Current.

Searle: Experimental Harmonic Motion.

Hass: Theoretical Physics.

Leigh Page: Introduction to Theoretical Physics.

Wood: Sound.

Richtmeyer: Modern Physics.

Darrow: Contemporary Physics.

Ruark and Urey: Modern Physics.

Wilson: Modern Physics.

Saha and Srivatsa: A text-book of Heat.

***Books recommended for Special Subjects*:—**

***Radiation—A. Wireless*:—**

***Books for Study*:—**

Brown: Radio Communication.

Greenwood: Text-book of Wireless Telegraphy and Telephony.

Reference:—

Bangay: The Oscillation Valve.

Palmer: Principles and Practice of Wireless.

Stanley: Text-book of Wireless Telegraphy.

Turner: Wireless Telegraphy and Telephony.

Henney: Principles of Radio.

Radiation—B.

Books for Study:—

Kaye: X-Rays.

Kaye: Modern Applications of X-Rays.

De Broglie: X-Rays.

Reference:—

Bragg: X-Rays and Crystal Structure.

Kaye: High Vacua.

Siegbahn: Spectroscopy of X-Rays.

Compton: X-Rays.

Kinetic Theory of Gases:—

Book for Study:—

Bloch: Kinetic Theory of Gases.

Reference:—

Loeb: Kinetic Theory of Gases.

Jeans: Dynamical Theory of Gases.

1937.

PHYSICS.

The same as for 1936, with the addition of the following book under "Books for Study":—

Houstoun: Treatise on Light.

BRANCH III—CHEMISTRY.

SYLLABUS IN BIO-CHEMISTRY.

(*To take effect from the Examinations of March* 1935).

Theory.

Physical phenomena in vital processes: Diffusion, Permeability, Osmosis, Electro-endosmosis, Colloidal State, Surface Action, Adsorption, Imbibition, Syneresis.

DEGREE EXAMINATION.

Enzymes and the mode of their action. Chemistry of fermentation.

Chemistry of carbohydrates, fats, lipins, sterols, proteins.

Basel metabolism and metabolism of fats, carbohydrates and proteins.

Metabolism of muscle proteins and muscle carbohydrates: formative and degradative. Chemical changes accompanying the phenomena of muscular contraction and muscular fatigue.

Blood and its composition. Chemistry of haemoglobin.

Chemistry of plant pigments: Anthocyanins, Carotinoids, Chlorophyll, Tannins.

Internal secretions of the ductless glands: Their function and general relation to metabolism. Chemistry of the active principles of internal secretions with special reference to adrenaline, insulin, thyroxin, pituitrin and oestrin.

Drugs and their mode of action. Relation between physiological action and chemical structure.

Toxins and Anti-toxins. Ehrlich's side-chain theory. Chemotherapy.

Vitamins.

Practical.

Methods of preparation of enzymes by dialysis, absorption and elusion, Preparation of malt and a study of the hydrolysis of starch.

Determination of hydrogen-ion concentration (*a*) potentiometrically, and (*b*) by indicators. Determination of the isoelectric point of casein.

Estimation of sugars (*a*) by Bertrand's method, and (*b*) polarimetrically.

Preparation of typical amino-acids, e.g., Glycine, Cystine, Tyrosine; Creatine, Cholesterol and Glycogen, from natural sources.

Preparation of protein-free blood filtrate: "Salted plasma" and "Oxalate plasma".

Analysis of milk. Analysis of urine. Estimation of sugar and urea in (*a*) urine, and (*b*) blood.

Estimation of amino-acids by Van Slyke's method. Estimation of peroxidases in common vegetables.

Elementary Bacteriological Technique: Preparation of media, sterilisation, isolation of pure organisms by culture, staining and mounting for photomicrographs.

Determination of phenol-coefficients of different disinfectants (Rideal-Walker Method).

Branch (ii-B)—B A. (Hons) and Branch III—B. Sc. (Hons.) Chemistry.

The following books are recommended in addition to the books recommended for the Pass Group (ii-B), Course:—

Arrhenius: Theories of Chemistry (Longmans).

Ostwald: Scientific foundations of Analytical Chemistry (Macmillan).

Ladenburg: History of Chemistry (Simpkin).

Thorpe: Essays in Historical Chemistry (Macmillan).

Holleman: Organic Chemistry (Wiley).

Cohen: Organic Chemistry for Advanced Students (Arnold).

Lewis: System of Physical Chemistry (Longmans).

Le Blanc: Electro-Chemistry (Macmillan).

Findlay: Phase Rule (Longmans).

Mellor: Chemical Statics and Dynamics (Longmans).

Young: Stoichiometry (Longmans).

Fajans: Radioactivity (Methuen).

Bailey: Descriptive Mineralogy (Appleton).

Williams: Elements of Crystallography (Macmillan).

Groth: Chemical Crystallography (Gurney).

Treadwell and Hall: Qualitative and Quantitative Analysis (Wiley).

Dennis: Gas Analysis (Macmillan).

Sudborough and James: Practical Organic Chemistry (Blackie).

Clarke: Handbook of Organic Analysis (Arnold).

Spencer: Experimental Course of Physical Chemistry (Bell).

Reference—

Nernst: Theoretical Chemistry (Macmillan).

Alembic Club: Reprints (Simpkin).

Chemical Society: Memorial Lectures, 2 Volumes (Gurney).

Mellor: Treatise on Inorganic and Theoretical Chemistry (Longmans).

Spencer: Metals of the Rare Earths (Longmans).

Roberts Austen: Introduction to Metallurgy (Griffin).

Schmidt: Organic Chemistry (Gurney).

Sidgwick: Organic Chemistry of Nitrogen (Oxford University Press).

Stewart: Stereo-Chemistry (Longmans).

Armstrong: Simple Carbohydrates and the Glucosides (Longmans).

Bayliss: Enzyme Action (Longmans).

Cain and Thorpe: Synthetic Dye Stuffs (Griffin).

Perkin: Natural Organic Colouring Matters (Longmans).

Fierz-David: Fundamental Processes of Dye Chemistry (Churchill).

Soddy: Interpretation of Radium and the Structure of the Atom (Murray).

Bragg: X-rays and Crystal Structure (Bell).

Stewart: Recent Advances in Physical and Inorganic Chemistry (Longmans).

Partington: Chemical Thermodynamics (Constable).

Prideaux: Problems in Physical Chemistry (Constable).

Smiles: Chemical Constitution and Physical Properties (Longmans).

Miers: Mineralogy (Macmillan).

Biltz: Laboratory Methods of Inorganic Chemistry (Wiley).

Low: Technical Methods of Ore Analysis (Wiley).

Ephraim: Inorganic Chemistry (Gurney).

Taylor: Treatise on Physical Chemistry (Macmillan).

Beringer: Text-book of Assaying (Griffin).

Lunge: Technical Chemists' Handbook (Gurney).

Gattermann: Practical Methods of Organic Chemistry (Macmillan).

Perkin: Practical Methods of Electro-Chemistry (Longmans).

Cole: Practical Physiological Chemistry (Heffer).

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The same as for 1936, with the following modifications:—

Add to the List of Books, the following.—(1) Hedge's "Chapters in Modern Inorganic and Theoretical Chemistry" (Arnold); (2) L. Gattermann's Laboratory Methods of Organic Chemistry" revised by Heinrich Wieland, 1932 Edn. (Macmillan).

In the list of Books for reference, the following changes should be made:—

Armstrong's "Simple Carbohydrates and the Glucosides" (Longman's) *to be replaced* by Haworth's "Constitution of Sugars" (Arnold).

Gattermann's Practical Methods of Organic Chemistry (Macmillan) *to be deleted.*

Physics—

The same as for B.A. or B.Sc. (New)— Subsidiary—Physics.

NATURAL SCIENCE.

Branch III.

ZOOLOGY (MAIN)

Theory—

1. Parker and Haswell: Text-book of Zoology—2 Vols. (Macmillan).
2. Sedgwick (A): Student's Text-book of Zoology—3 Vols. (Swan Sonnenschein).
3. Lang (A): Text-book of Comparative Anatomy—2 Vols. (Macmillan).
4. Weidersheim: Elements of the Comparative Anatomy of Vertebrates (Macmillan).
5. Graham Kerr: Zoology for Medical Students. (Macmillan).
6. MacBride (E. W.): Text-book of Embryology—Vol. I—Invertebrata (Macmillan).
7. Graham Kerr: Text-book of Embryology—Vol. II—Vertebrata (Macmillan).
8. Doncaster: Introduction to the Study of Cytology: (Cambridge University Press).
9. Lull: Organic Evolution. (Macmillan).
10. Punnett: Mendelism. (Macmillan).
11. Thomson (J. A.): Heredity. (John Murray).
12. Kellogg: Darwinism to-day. (George Bell & Sons).

13. Lock: Variation, Heredity and Evolution. (John Murray)
14. Ray Lankester: Extinct Animals. (Constable).
15. Beddard (F): Zoogeography. (Cambridge University Press).
16. Jenkinson: Vertebrate Embryology. (Oxford University Press).
17. Walter: Genetics (Macmillan).
18. Agar: Cytology.
19. Kellicot: Chordate Development.
20. Kellicot: General Embryology.
21. Studies on the Structure and Development of the Vertebrates by E. S. Goodrich.

Practical.—

In addition to the books prescribed for B.A. Main, the following books are recommended:—

1. Chadwick: The Marine Plankton. (University Press of Liverpool).
2. Ward and Whipple: The Freshwater Biology. (Chapman and Hall).
3. Fowler Herbert: Science of the Sea. (John Murray).
4. Lee: Microtomists' Vade Mecum. (J. and A. Churchill).
5. Guyer: Animal Micrology (Uni: Press, Chicago).
6. Carleton: Histological Technique (Oxford Medical Publications).

Reference—

1. Ray Lankester (F); A treatise on Zoology—9 parts. (A. and C. Black & Sons).
2. Cambridge Natural History—10 Volumes, (Macmillan).
3. Volumes of the Fauna of British India.
4. Wilson: Cell in development and heredity. (Macmillan).
5. Minchin: Introduction to Protozoa. (Arnold).
6. Calkin: Biology of the Protozoa. (Barliere Tindall).
7. Castle: Genetics and Eugenics. (Harvard University Press, Cambridge).
8. Bateson: Problems of Genetics. (Yale University Press).
9. Ruggles Gates: Mutation factor in Evolution. (Macmillan).
10. Charles Darwin: Origin of species (John Murray).

11. Doncaster: Determination of Sex. (Cambridge University Press).
12. Morgan: Mechanism of Mendelian Heredity.
13. Morgan: Physical Basis of Heredity.
14. Goldschmidt: The Mechanism and Physiology of Sex determination (Translated by Dakin).
15. Wenyon: Protozoology—2 Vols.
16. De Beer: Vertebrate Morphology.

Journals—

1. Nature.
2. Quarterly Journal of Microscopical Science.
3. Proceedings of the Zoological Society.
4. Proceedings of the Royal Society, London.
5. Philosophical Transactions of the Royal Society, London.
6. Journal of Experimental Zoology.
7. Records of the Indian Museum.
8. Memoirs of the Indian Museum.
9. Nordiches Plankton.
10. Journal of the Royal Microscopical Society.
11. Quarterly Biological Abstracts.

SUBSIDIARY.

Theory—

1. Shipley and MacBride: Text-book of Zoology. (Cambridge University Press).
2. Parker and Haswell: Text-book of Zoology, 2 Vols. (Macmillan).
3. Hegner: College Zoology (Macmillan).

Practical—

1. Marshall: The Frog. (Macmillan).
2. Marshall and Hurst: Practical Zoology. (Smith Elder & Co.).

Reference—

1. Sedgwick (A): Student's Text-book of Zoology, 3 Vols. (Swan Sonnenschein).
2. Borradaile: Animal Life and its Environment. (Henry Frowde and Hodder and Stoughton).
3. Lull: Organic Evolution. (Macmillan).
4. Charles Darwin: Origin of Species (John Murray).

Geology.

(a) **For reading and study.**

A. Geikie	...	Text-book of Geology—2 Vols.
J. D. Dana	...	Text-book of Mineralogy.
Miers (H. A.)	...	Mineralogy.
James Geike	...	Structural and Field Geology.
R. M. Chalmers	...	Geological maps.
A. Dwerryhouse	...	Geological maps.
Woods	...	Paloeontology.
Swinnerton	...	Outlines of Palœontology.
Thomas and Macalister.		Ore Deposits.
Wadia	...	Indian Geology.
R. D. Oldham	...	Indian Geology.

(b) **For reference and consultation.**

Chamberlin & Salisbury.		Geology—3 Vols.
Arthur Holmes	...	Petrographic Methods and Calculations.
A. Harker	...	Natural History of Igneous Rocks.
Daly	...	Igneous Rocks and Their Origin.
A. Johannsen	...	Petrographic Methods.
Zittel	...	Paloeontology.
Graham	...	Principles of Stratigraphy.
Lindgren	...	Mineral Deposits.
Ladoo	...	Non-metallic Minerals and Deposits.
Hobbs	...	Earth's Revolution and Facial Expression.
Brush and Penfield	...	Determinative Mineralogy.
Rosenbusch & Iddings	...	Physiography of Rock-forming Minerals.

Memoirs of the Geological Survey of India.

APPENDIX VII.

SYLLABUSES FOR THE B. Sc. DEGREE IN AGRICULTURE.

NEW REGULATIONS.

Agriculture.

FIRST YEAR.

Meteorology:—Air movements, wind currents, monsoons, rainfall, climate, factors which influence climate, influence of climate and seasons on farming. Weather charts and forecasts.*

Relation of Science to Agriculture:—Soils. Formation, weathering agencies, soil, sub-soil, soils of the Madras Presidency. Relation of soils to temperature. Effect of latitude, aspect, colour and incorporation of organic matter on soil temperature. Relation between soil temperature and plant growth.

Tillage, necessity, methods, effects.

Farm implements and machinery. (a) ploughs, (b) cultivators, harrows, grubbers and rollers, (c) drills, (d) hoes, (e) harvesting tools and machinery, winnowing and thrashing machines, chaff cutters, sugar mills, (f) power cultivation.

SECOND YEAR.

Manures:—Principle of manuring, classification of manures; farm yard manure, sheep manure, dung of horses and pigs, fish manure, guano, bones, bone-meal, soot, dried blood, slaughter house refuse, night-soil, poudrette, sewage, oil-cakes, green manures, compost, old village site earth. Preparation, preservation, use of the above manures, fertilisers. Lessons learnt from manurial experiments at research stations, chiefly Rothamsted.

Soil fertility, soil improvement:—Drainage, soil reclamation, maintenance of fertility, fallows, rotations, mixtures.

Irrigation:—Importance, irrigation sources, rivers, tanks, catchment areas, capacity, irrigation works, management of irrigated lands, water lifts, duty of water, effects on tracts irrigated.

Crops.—Classification, cereals, pulses, oil-seeds, sugarcane, fibres, dyes, spices, drugs, narcotics, fodder crops, fruits and vegetables, miscellaneous crops of the Presidency. Coconut, palmyrah and other trees of economic importance. Market gardening, pastures, hay and silage. Hill crops. Cultivation of the crops named above and their preparation for the market. Selection of seed; preservation and storage, drying, steeping, fumigation.

*For syllabus under the old Regulations, *Vide* Appendix XIX.

PRACTICAL WORK.

For First and Second year.—

The students will undergo practical training in all branches of farm work. Each student will himself cultivate small plots in wet, dry and garden lands, and will be taken on tours and excursions to representative Agricultural tracts. Every student will maintain record book for each item of work specified.

THIRD YEAR.

Animal Husbandry:—(including dairying).

Cattle:—Their importance to the farmer; breeds of cattle, breeding tracts in the Presidency, feeding and rearing, rations, value and costs. General management, rearing of calves.

Sheep, goats, poultry, and pigs. Chief breeds, feeding and management.

Dairy cows:—Feeding, management, breeding, dairy products, milk, properties, composition, treatment, disposal, *cream* separation, curdling of milk, starters, skim milk, butter and ghee, their preparation.

Dairy Economics:—Equipment, building, machinery, disposal of products.

Agricultural Economics:—1. *Farm management.* Location and laying out of farms, farm equipment, buildings, tools, implements, machinery, labour, human and animal, distribution and management.

Disposal of manures and farm produce.

System of farming. Cost of cultivation of crops.

Valuation of land and crops. Farm accounts.

2. *Economics:*—(a) Scope of economics, general principles, current economic theories, basis of economics, wants, satiability.

(b) *Consumption.*—meaning and types, demand, utility, value, wealth.

(c) Production, factors, natural forces, land, labour, capital, law of diminishing returns.

(d) Organisation, efficiency, specialisation. units, co-operation, credits.

(e) Distribution, supply, demand, price and value, costs, market transportation, profits, land tenures, rent, leases, wages, insurance.

Agricultural experiments, objects, scope, methods, calculation of experimental error, interpretation of results.

PRACTICAL WORK.

Students will have practical training in all branches of animal husbandry including management, health and care of animals, and in dairying and dairy-farming and separation of milk, preparation of butter and other milk products. They will visit villages in the neighbourhood and make enquiries on rural subjects. They will do library work to supplement their lectures and to get familiar with current literature. They will also have tours and excursions. Each student will maintain records of work done and of observations made.

Botany

FIRST YEAR.

Morphology and classification:—The external morphology of the following parts:—Root, stem, leaf, flower, fruit and seed. The general principles of classification and the distinguishing characteristics of the following families:—Malvaceæ, Leguminosæ, Cucurbitaceæ, Rubiaceæ, Compositæ, Solanaceæ, Amarantaceæ, Euphorbiaceæ, Scitamineæ, Gramineæ.

Histology:—Cell structure, cell division and cell contents. The origin, nature, and development of plant tissues. Primary and secondary tissues and their distributions in the plant body.

Physiology:—Absorption of water and gases and their movement in the plant. Photosynthesis and the synthesis of proteids. The essential and non-essential elements of plant food Translocation and storage of food materials and their digestion. Enzymes and their action. Respiration. Sources of energy in plants. Special modes of nutrition. Growth, movement and irritability in plants. Reproduction.

PRACTICAL WORK.

Students will examine and describe plants of the families or groups specified in the syllabus, make dissections and drawings of the various parts of plants and prepare sections for the microscope so as to illustrate their structure.

SECOND YEAR.

Ecology:—External factors and their influences on the plant. Distribution of plants and the factors governing the same. Types of vegetation—Xerophytes, Mesophytes, Halophytes, Hydrophytes.

Crop Botany:—The cultivated plants and their origin. Differences between cultivated and wild plants. The important crops of India, their geographical zones and distribution. The morphology, histology and physiology of the cereals, pulses, fibre plants, root crops, vegetables, oil-seeds, grasses and fodder crops, and the chief industrial and economic crops under cultivation. Diagnostic characters of species and sub species of each crop. Vegetative and sexual reproduction. Cross- and self-fertilisation. Weeds, identification and principles of control, seed testing. Recognition of the seeds of the common weeds and crop plants.

PRACTICAL WORK.

Candidates will examine the common weeds growing in cultivated fields and their seeds, will recognise, describe and refer to their families crop plants and dissect and prepare sections to illustrate their structure under the simple and compound microscopes.

THIRD YEAR.

Horticulture:—Economic and agricultural aspects of growing fruits and vegetables. Fruits, kinds and varieties. Stock. Preparation of land, laying out and planting. Pruning, budding, and grafting. Spraying. Vegetables, kinds and varieties. Seed-beds and transplanting. Seed growing. Selection of mother plants and rouging.

Genetics and Plant Breeding:—Theories of evolution, variation and origin of species. Methods of improvement of crops. Pure lines. Mendelism, Principles of heredity and their application to the breeding of improved forms of farm crops. Genetics of farm crops, Rice, Cholam, Ragi, Cotton, Sugarcane, Tobacco, Groundnut, etc. Elements of Cytology. Chromosome theory of heredity. Phenomena of linkage and crossing over. Hybridisation, intervarietal, interspecific, and intergeneric. Self- and cross sterility. Inheritance of and breeding for disease resistance.

Cryptogams:—The main points of structure, development and life history of the following:—

Blue-green and green Algæ, Liverworts, Mosses and Ferns.

Mycology:—The structure of fungi, their modes of nutrition and reproduction. Dissemination of fungi and infection of host plants. Effect of fungi on host plants. Methods of control of plant diseases. Classification of fungi and the characters of the main groups. Diseases of crops.

Practical:—In Horticulture candidates will be given practice in pruning, grafting, and budding in fruit trees and flower shrubs. In Genetics course candidates will be taken to the breeding stations and made to examine simple and complex Mendelian ratios. In Mycology they will observe the simple laboratory methods of examining a diseased plant, plating and culture, and simple infection experiments.

Chemistry

FIRST YEAR.

Organic Chemistry:—Isolation, purification and analysis of organic compounds. Determination of molecular weights. Classification. Compound radicles. Open and closed chains. Saturated and unsaturated compounds. Homologous series. Empirical, molecular and constitutional formulæ. Isomerism, metamerism and polymerism. Hydro-carbons, Methane, Ethane, Ethylene and Acetylene.

Halides—Methyl and ethyl halides. Chloroform and iodoform.

Alcohols.—Monohydric alcohols. Primary, secondary and tertiary alcohols. Distillation of wood and Methyl alcohol.

Alcoholic fermentation and ethyl alcohol.

Ethers.—Sulphuric ether.

Aldehydes and Ketones. Acetaldehyde and Acetone.

Fatty acids—Formic, acetic, propionic, and butyric acids.

Derivatives of acids—Acetic anhydride, acetyl chloride, acetamide and Amino-acids.

Esters.—Halogen Esters. Ethyl nitrate. Nitro paraffins, Ethyl hydrogen sulphate. Esterification.

Amines.

Glycols.—Ethylene glycol.

Glycerols.—Fats and oils.

Dibasic acids.—Oxalic, malonic and succinic acids.

Hydroxy-acids—Glycollic, lactic, malic, tartaric, citric.

Nitrogen derivatives—Cyanides and urea.

Carbohydrates—Glucose, levulose, sucrose, maltose, lactose, dextrin, starch and cellulose; preparation, properties, general reactions. (To be treated in an elementary way).

The aromatic compounds—Benzene and its chief derivatives—Phenols. Benzaldehyde. Benzoic acid. Nitro-benzene. Aniline. Salicylic acid. Naphthalene, Anthracene.

Practical:—Reactions of bases and acids of common occurrence and of agricultural importance.

Qualitative analysis of mixtures of two bases and two acids.

Characteristic reactions of carbohydrates. Identification of the common organic acids—acetic, oxalic, formic, citric and tartaric acids.

SECOND YEAR.

Agricultural Chemistry.

Soils, origin of soils. Rocks and rock-forming minerals met with in South India. Elementary geological structures. Geological formations of South India. Soils derived from them. Different soil types of the Madras Presidency. Red, black-cotton, laterite, sandy, alluvial and peaty soils.

Proximate constituents of the soil—sand, clay, lime and Humus. Physical properties of the soil, pore-space, internal surface, specific gravity, tenacity, colour,—flocculation, deflocculation and tilth.

Mechanical analysis of soils—hydraulic and sedimentation methods; interpretation of results.

Relation of soil to temperature.—Factors affecting soil temperature.

Soil Air:—Nature of the gases produced under aerobic and anaerobic conditions.

Relation of soil to water. Transpiration ratio, retention of water, surface tension, percolation and drainage, drain-gauge. Upward and lateral movement of water in soils, evaporation.

Chemical analysis of soils.—Dormant and available plant food. Analysis of typical South Indian soils; interpretation of the results.

Retention of bases and acids.

Soil reaction:—General notions of Hydrogen-ion concentration.

Alkaline and acid soils. Injurious salts and limits of toxicity. Methods of reclamation. Soil surveys with special reference to Madras Presidency.

Biological action in soils.—Break-down of carbo hydrate and protein material in soils.—The carbon and nitrogen cycles.

Plant Chemistry.—

Tannins.

Glucosides. Cyano-genetic glucosides.

The Alkaloids—Occurrence and general reactions and properties. The Proteins.—General reactions and characteristics. The Chemistry of the Plant. Essential elements and their functions. Proximate constituents.

Chemical changes occurring during germination and growth.

Photo-synthesis. Enzymes and their action. Analysis of plants and the general composition of South Indian crops.

Practical:—Volumetric analysis.—Standard solutions. Acidimetry and alkalimetry.

Volumetric determinations involving the use of standard solutions of silver nitrate, permanganate and iodine and thiosulphate.

Gravimetric estimations. Fe, Al, SO_4, Cl, CaO, MgO, K_2O, P_2O_5.

Mechanical and chemical analysis of soils.

Characteristic reactions of alkaloids.

Examination of the common fats and oils and detection of adulteration.

THIRD YEAR.

Agricultural Chemistry:—Manures. Necessity for manures. Soil exhaustion. Minimum cropping value. Limiting factors. Classification of manures. The chief nitrogenous, phosphatic and potassic manures, their manufacture, application and modes of action. Farm yard manure, green manure and other manures of South India. Analysis and valuation of manures.

Chemistry of foods and feeding:—Composition of the animal. Fodders and feeding stuffs, and their composition and analysis.

Digestion and absorption. Functions of the different nutrients. Digestive Co-efficients.

Nutritive ratios. Calorific values. Starch equivalents.

Formation of flesh, fat, and milk.

Feeding standards. Calculation of rations. Manurial values of food. Vitamins.

Dairy Chemistry:—Composition of milk and milk products. Physical and chemical properties. Analysis and detection of adulteration. Bacteria in relation to the Dairy.

Hydrogen-ion concentration.

Practical:—Analysis of the more common crops of South India.

Analysis of manures, feeding stuffs and fodders.

Estimation of the important carbohydrates, Hydrolysis by acids and enzymes. Starch, sucrose and glucose. Examination of the important vegetable and animal proteins.

Analysis of milk and butter. Examination of water for irrigation purposes.

Zoology.

FIRST YEAR.

Elementary Zoology:—(A course designed to give a general view of the animal kingdom, as an introduction to Agricultural Zoology).

Theory:—The terms Biology—Zoology and Botany. The chief characters of living organisms, animals and plants, their similarities and differences. Zoology—its scope—Different aspects of study. The animal cell, its structure and functions. Evolution of tissues, organs and systems. Animals, reproduction and development. The general principles of animal evolution. Main classification of animals.

The chief features in the general structure and habits of some familiar forms from the more important animal phyla especially those including forms of economic importance.

A somewhat detailed study of the group 'insects' with special reference to their affinities, classification, life history and habits.

Practical:—Practical study of the following animals in a very elementary manner with special reference to their general external form and chief distinguishing features—Amœba, Paramœcium, Hydra, Prawn or Crab, Spider, Butterfly, Snail and Fish.

The external characters and general plan of arrangement of the chief internal organs as revealed by a very simple dissection of Earthworm, Cockroach, Frog, Pigeon and Rabbit.

Identification of the commoner and familiar forms among the different groups of animals and field observations, wherever possible to gain first hand knowledge of their habits and habitations.

SECOND YEAR.

Agricultural Zoology.—

Theory:—The terms Agricultural Zoology and Entomology. Insects and their close allies. Insects and man. Popular and scientific methods of insect classification. Useful and beneficial insects—Silk, Lac, Honey insects, Pollinators, Parasites and Predators.

Injurious insects—Recognition of major and minor pests. General principles and factors governing increase and decrease of pests. Principles and important methods of insect control such as spraying, Insecticides, Fumigation. Biological methods of pest control and Legislation regarding insects. The important insect pests affecting cattle and stored products. Household and disease carrying forms.

The important pests of the various cultivated plants such as cereals, pulses, oil-seeds, fibre crops, fruit trees, vegetables, palms, dyes, drugs, and narcotics, garden plants and avenue trees, etc.

Other animals of Agricultural importance, such as Eelworms, Ticks, mites, Millipedes, crabs, snails, among lower animals.

Beneficial and injurious birds and pests like rats, jackals, wild pigs and others among higher animals.

Practical:—Practical study of the external characters and mouth parts of the more important types of insects. A general knowledge of the chief internal organs of grass-hopper, cockroach, and Beetles by a simple dissection. Identification of the more important insects of economic importance found in South India.

Observation, rearing and submission of a representative collection of Insects at the examination. Occasional excursions to different localities to observe insects in their haunts and insect pest outbreaks if any.

Agricultural Engineering.

FIRST YEAR.

Mensuration and Trigonometry:—Area and volumes of simple plane figures. Simpson's Rules. Trigonometrical ratios and use of logarithms.

Elementary Surveying:—Chain survey, plain Table survey, Prismatic compass, traverse and plotting.

Levelling:—Instruments employed, their adjustments, and uses. Field book plotting. Easy computation of earth work, contours, block levels and tracing.

Road making:—Preliminary surveying and mapping alignment. Longitudinal and cross sections, gradients and formation. Earth, gravel and metal roads, maintenance and repairs.

Buildings:—Building materials used in the construction of simple farm buildings. Stones, bricks, limes, cements, mortars and concretes. Timber, paints and varnishes. Wood work wrought and put up in roof timbers and in doors and windows. Roofing, plastering, and flooring. Trial pits, masonry and concrete foundations, superstructure.

Drawing and estimating.—Drawing plans of simple farm buildings, culverts, etc., from specification and estimating quantities and cost including detailed data.

Practical:—Lectures on the above portions will be supplemented by practical work in surveying, levelling and simple plan drawing and estimating.

SECOND YEAR.

Hydraulics:—Wells and well sinking. Boring. Flow of water in pipes, channels and over weirs and notches.

Water lifts, picottah, mhote, Archemedian screw, Persian wheel, pumps, adaptability and installation.

Agricultural Implements:—Characters and strength of materials used in the construction of agricultural implements. The general principles in the construction of agricultural implements and machinery; ploughs, harrows, drills, presses, chaff-cutters, cane crushing mill, sprayers, milk separator.

Power on the Farm:—Work, energy and power. Sources, man, animal, wind and flowing water, steam and oil engines, electric current. Efficiency, fuel and their calorific value.

Internal combustion engines.—Gas, petrol and oil engines. Principles underlying construction and working, methods of ignition, governing. Engine faults, location. Measuring B.H.P. and I.H.P. Power driven Farm Machinery. Disintegrators and decorticators, cane-mills, rice hullers, gins and tractors.

Practical:—Lectures will be supplemented by practical work in handling farm machinery and engines, and workshop practice will also be provided.

Animal Hygiene.

FIRST YEAR.

Theoretical:—Introduction and definition of common terms. Skeleton of ox and sheep. Appendicular skeleton—bones of limbs

and their media of attachment: axial skeleton. Important bones of the skull, vertebræ, ribs and breast bones. Elementary anatomy and physiology of the digestive, respiratory, circulatory and urinogenital system of ruminants.

Materia medica of easily obtainable drugs. The origin, uses and doses for ruminants of the following drugs:—

Alum, ammonium chloride, aniseed, asafoetida, bicarbonate of soda, borax, boric acid, camphor, carbolic acid; carron oil; castor oil, catechu, chalk, chiratta, salt, eucalyptus oil, ganja, ginger, gum acacia, iron sulphate, linseed oil, mustard, neem oil, nux vomica, omum, opium, oil of tar, paraffin, potassium permanganate, phenyle, saltpetre, salvolatile, sulphur, sweet-flag, tincture of Iodine, tobacco, treacle, turpentine, zinc oxide, Butea seeds, Amm. Carbonate, cresol, arrack, oleum arachis.

Practical:—Handling of cattle, sheep and goats, Methods of restraint. Signs of health and disease. Taking temperature and pulse. Dentition in ruminants.

Simple surgical operations such as bandaging, dressing and suturing simple wounds, taking blood smears, etc.

SECOND YEAR.

Theoretical:—General hygiene including construction of cattle sheds, lambing pens, ventilation, drainage, disinfection, nursing and feeding of sick animals and disposal of their excreta and carcasses.

Minor surgery. Description and treatment of inflammation, operations of castration, dehorning in ruminants, treatment of wounds, fractures, dislocation, ulcers, sinuses, tumours, abscesses, sprains and pricked foot.

Diagnosis and treatment of common ailments in cattle-fevers, constipation, diarrhœa, dysentery, hoven, choking, coughing, abortion, retention of placenta, dropping of the womb, garget, obstruction to teat and cattle poisoning.

Contagious diseases.—Their causes, symptoms, prevention and cure, rinderpest, hæmorrhagic septicæmia, anthrax, black-quarter, sheep-pox, tuberculosis, liverrou, gid, mange, ringworm, foot and mouth disease.

Management and common diseases of poultry.

Practical:—Dispensing.—The uses of common veterinary instruments and appliances.

Operations, principles of shoeing, diagnosis and treatment of lameness in cattle. First aid in parturition cases.

APPENDIX VIII.

L. T. DEGREE EXAMINATION.

The following syllabuses for the subjects of the Examination have been prescribed:—

THE THEORY AND PRACTICE OF EDUCATION.

A

Physiology in relation to child and school hygiene. Study of the human organism: the different systems of the organism: the diseases of each and their prevention; unhygienic habits and their results; responsibility of the teacher; medical inspection; the function of the teacher in this connection. Physical growth of the individual and the physiological changes characteristic of each stage of development; physical culture, and games. Environment of the child: school buildings, furniture, sanitation, playgrounds—consideration of the new psychology in this connection.

B

Psychology in relation to the child and his development. The physiological basis of mental life. The mechanism of reaction: stimulus and response. Heredity and environment. Instincts. The senses: the purpose and methods of sense-training. Development of intellect: sensation, perception, conception, apperception, memory, association, imagination, reasoning and judgment. The emotions. Volition; the question of freedom. Individuality. Stages of mental development. The laws of learning. Imitation, play, habit-formation, attention, interest and effort. Fatigue, physical and mental. Intelligence testing; its purpose and achievements. The Group mind. Suggestion. The Unconscious in education.

C

Principles and methods of instruction, organisation and discipline in schools. Ideals and aims in education. Principles of the curriculum. The question of formal training. Correlation in teaching. The logical and psychological order. Factors and methods in the training of thought; analysis of a complete act of thought. Methods of discovery, verification and proof. Definition and its place in education. The place of language in education. Technique of teaching: inductive and deductive development; exposition and illustration; discussion and questioning. Individual and group work. Exercises; testing, old and modern

methods; reports; examinations. The grading of pupils. Time-tables: sequence of lessons. Homework; its purpose and organisation. The promotion of corporate school life; school societies, prefects, out-of-school activities: games; Scouts and Guides, leisure time and hobbies. Discipline, its nature and meaning; its relation to character and self-control; the question of punishment, out-of-school influences; co-operation between home and school.

A subject for Special Study for 1935.

Some Aspects of Mass Education with particular reference to South India.

Distribution of Schools.—School provision and over-lapping; schools for Hindus, Muhammadans, Depressed classes, boys and girls; schools under different managements; results; need for consolidation; co-education in India; difficulties in way; central schools, other schools; position of schools under private management.

Compulsory Education.—Elementary education and compulsion: extent of compulsion in rural and urban areas: the State and compulsion: local option: enforcement of compulsion; wastage; the economic problem: consideration of resources for effective compulsion; parents' associations, attendance committees, factory schools, penalties for non-attendance.

The Curriculam.—The 3 R's; the need for universal literacy: modern movements; rural bias in education; the curriculum and village uplift; the Moga and other experiments; the Project method: practical instruction: physical education.

Adult Education.—The need for adult literacy: adult education and village uplift: means of adult education; optical lantern, the drama. Village libraries, games and amusements: organisation of adult education.

The Teacher.—Recruitment of teachers; general educational attainments, need for improving: training of teachers; the course of studies: place of the teacher with regard to village uplift, compulsory education, the consolidation of schools.

D (1)—ENGLISH.

I. *General.*—Objects of teaching English—its practical and cultural values. The position of English in India; the bilingual problem and its implications—(*a*) English a medium of instruction, (*b*) high standard of attainment, (*c*) colloquial as well as literary English.

II. *Methods of Teaching—*

(*a*) The translation method of teaching English in India; its defects, comparison of English and Indian languages. Traditional method of language study.

(*b*) The Reformed method. Its meaning, object and importance in relation to the aim of teaching English. The inhibition of the mother tongue as far as possible; the foreign tongue the medium of instruction. Results—fluency of expression, oral and written.

III. *Oral work.*—Its prominence in the initial stages—

(*a*) Phonetics. The value of phonetics—its importance to teachers in English—the value of phonetics and phonetic drill.

The sounds of English—detailed study of their production—comparison of English and Indian sounds—methods of teaching:—(1) phonetic drill, (2) apparatus, (3) use of phonetic symbols. Value of phonetic texts (1) for teachers, (2) for pupils.

(*b*) Conversation: precedes reading.

Subjects: Class-room objects; persons; actions, pictures; conversation between pupils. Importance of repetition.

IV. *The Text.*—The centre of instruction; extent to which digression is desirable. Methods of explanation—use of objects, actions, gestures and pictures; forms of verbal explanation—the apperceptive principle; the use of mother tongue, extent to which it may be used. Importance of study of language; drill in word and phrase; oral composition; means of extending vocabulary—word and phrase books—their arrangement. The requisites of a good reader—consideration of existing readers.

English life (customs, society, schools, etc.) stage at which to introduce; consideration of difficulties; contrast between conditions of Indian pupils and, *e.g.*, French pupils in this respect.

Elementary study of diction in texts. Choice of words; prose and poetic diction; attention to concrete expression; rhyme and metre.

Intensive and extensive reading. The function and treatment of non-detailed texts. Creation of interest in reading. The importance of silent reading. The formation and use of class libraries.

Reading aloud and recitation from texts—pronunciation, punctuation, phrasing, intonation, stress.

V. *Grammar.*—Distinction between Grammar common to all languages and the grammar of a particular language. The need for uniformity in grammatical terms in English. The place of grammar in the reformed method of language teaching. Inductive methods; correlation with texts. The function and form of words; word order; sentence structure; importance of analysis. Grammar summaries and framing of rules. Grammar drill. Framing of grammar syllabuses. The medium of instruction.

VI. *Hand-writing.*—Outline of work in initial stages—writing charts, copy-books; transcription from texts; spelling; dictation. Importance of punctuation; syllabification in writing, difficulties arising from vernacular practice. Attention to hand-writing in exercise books, note-books and composition.

VII. *Composition.*—Correlation with texts, grammar and word-lists. Progress from reproduction to free composition; importance of oral work. Story reproduction; use of pictures; use of texts; correlation with other subjects; current events. Types of composition; (*a*) Essay—narrative—descriptive, etc., (*b*) Letter-writing, (*c*) Epitome, (*d*) Expansion, (*e*) Paraphrase. Translation; principles of translation; stage at which it should be introduced.

The construction of the essay—principles of sentence and paragraph structure. Oral and written preparation essential. Correction and valuation of written exercises. The difficulty of large classes.

VIII. Organisation of English teaching in schools. Time-tables, free and rigid. Schemes of work; syllabuses. Notes of lessons; note-books. Class-rooms; Libraries.

D (2) (*a*)—CHILD EDUCATION

Principles and methods of Child Study.

History of Child Education with special reference to Rousseau, Pestalozzi, Froebel and Montessori.

Experimental observations; Physiological considerations; the child's instincts.

Stages of child development—study of exceptional children and methods of dealing with them.

Mental Intelligence Tests.

II. A survey of recent experiments in methods of child education.

Theories of play and play methods: Importance of play in the development of the child. Free and organised play: consideration of the choice of a child's play-things and occupation materials.

III. Self-activity, continuity, connectedness and creativeness as guiding principles in early education.

IV. Sense training; its importance in the teaching of

(*a*) Language, number and space.

(b) Natural interests.

(c) Class singing with special emphasis on rhythm; Simple eurhythmics.

(d) Drawing and handwork.

(e) Story and dramatisation.

V. Correlation in the teaching of the various subjects, in the framing of syllabuses and time-tables and in the application of the project method.

VI. Environment. Fatigue. Discipline.

D (2) (b)—MATHEMATICS.

i. *Mathematics and Mathematical knowledge.*—The nature and scope of mathematics; its relation to other branches of knowledge, *e.g.*, physical and natural sciences, logic, philosophy, economics. Value of mathematical education: Practical and Cultural.

The development of mathematical knowledge by empirical, intuitional and rational processes. Working knowledge *versus* knowledge of principles underlying the processes.

The fundamental concepts of Elementary Mathematics in relation to teaching.

ii. *History of Mathematics.*—The value of the study of history of Mathematics and Mathematical teaching:—History of the important topics of elementary mathematics, *e.g.*, notation, metric system, directed numbers, function concept, parallel postulate.

Contribution to the pedagogy of mathematics by eminent educators, *e.g.*, Froebel, Herbart, Montessori.

Methods of mathematics—the scientific, deductive, intuitional and creative.

Modern tendencies in the teaching of school mathematics.

III. *Methods of Teaching Mathematics.*—The heuristic and laboratory; synthetical and analytical; inductive and deductive; genetic and other methods, singly or in combination.

Experimental and practical mathematics. The organisation and functions of mathematical laboratories. Outdoor work.

Means of securing speed and accuracy in mathematical work. Oral and written work.

IV. *The content and organisation of school mathematics.*—Organisation of school mathematics, primary, lower and upper secondary. Compulsory and elective courses.

Curriculum construction. The psychological *versus* logical order of development. The concentric *versus* the continuous development. The syllabus and assignments.

Separate treatment of Arithmetic, Algebra and Geometry re aims of teaching, position in the curriculum, organisation of subject-matter, methods of teaching, etc.

Correlation of Arithmetic, Algebra and Geometry and of Mathematics with other school subjects.

A detailed study of the Madras S.S.L.C. and Matriculation syllabuses in elementary and optional mathematics.

Mathematical libraries. Students' associations.

V. *Problems bearing on the conduct of mathematical work.*—The medium of instruction.

Text-books: their place and value. A critical study of text-books.

Notes of lessons and teacher's records of work.

Individual, group and class teaching. The Dalton plan and supervised study of mathematics.

Problems and problem solving. Project method. Collection of data for problems, Indigenous methods of calculation.

VI. Examinations, Valuation of Answers. Modern tests. Standards of achievement. Treatment of Errors.

Fundamental notions of Statistical averages and correlation as applied to educational problems.

D (2) (*c*)—PHYSICAL SCIENCE.

Aims of science teaching—the acquisition of useful knowledge by discovery; and exposition of the scientific or laboratory method of training. Methods not the verification of previously known facts, but finding out by means of experiment; learning by doing; training in self-reliance.

Three stages—(*a*) observational, (*b*) heuristic, (*c*) systematic.

Two objects, the acquirement of skill and of knowledge. Intensive method; necessity of definite conceptions.

Physical science, a sequence to elementary natural science. Co-ordination, and correlation with natural science, mathematics, drawing, geography.

Didacticism opposed to the scientific method; critical appreciation of authority.

Methods of recording work, observational and experimental.

Drawing up syllabuses and laboratory courses; continuity; sequence; directiveness. Organization and fitting up of laboratory. Induction and deduction, synthesis and analysis, in their application to the study of science. Function of hypotheses and their potency in relation to science.

Historical considerations in the study of science. Place of quantitative work in a school course.

D (2) (*d*)—NATURAL SCIENCE.

Aims of teaching Natural Science—Acquisition of knowledge by discovery. Methods not the verification of previously known facts, but finding out by observation and experiment.

Elementary Natural Science.—a Science chiefly of observation. The teaching of Natural Science may be used as (i) a training in accuracy of observation, (ii) a training in discovery of laws governing the relationships of living things to external conditions by experimental work, and therefore of the characters of the animate world, (iii) a training in finding out the principles of classification and the relationships of families.

Combination of observational and heuristic methods of teaching. Drawing and description in relation to correct observation. Sketches to be made from the actual objects themselves.

The value of comparison.

Consideration of the characteristics of some natural orders of plants. Principles of classification with special reference to botanical system of classification. Natural and artificial systems of classification.

Arrangement of apparatus for experiments; Conducting experiments. Selection of specimens for different lessons. Value of living specimens. Necessity for an acquaintance with dried specimens to a certain extent.

The value of school museum. Fitting up and maintenance of a school museum. Necessity for observing economy in maintaining a school museum. Methods of preserving and labelling specimens. Value of Photographs. Use of the magic lantern.

School herbarium. Selection of plants for the herbarium. Methods of preparing herbarium specimens. Encouragement of the collection of specimens.

Value of a school garden and of excursions.

D (2) (c)—HISTORY.

1. *The Meaning of History.*—Considered as (i) a Philosophy, (ii) a Science.

2. *Scope.*—The subject-matter of history—its branches, social, political, economic.

3. *The Value of Historical Study.*—

(*a*) Cultural—study of human nature; breadth of outlook.

(*b*) Practical—a school of citizenship.

(*c*) Ethical—training of character; instrument of moral training—patriotism.

(*d*) Mental training—mental processes involved—analysis, classification, generalisation, comparison, criticism, judgment.

4. *Aims of Teaching.*—

General—

(a) To develop a historical sense—the creation of interest in the past and understanding of the present.

(b) To secure the intelligent use of books and training in individual work.

Special—

Early stages.—To create interest and develop imagination.

Later stages.—To train the intellect; logical—critical—selective—descriptive powers.

5. *The Subject Matter*—

(*a*) Principle of selection for early and later stages—psychological—logical.
General, national and local history; ancient and modern history.

(*b*) Organisation: Concentric and periodic system; outlines and special periods; chronological and topical treatment.

(*c*) Correlation with other subjects, *e.g.*, Civics—Geography—Literature.

6. *Method*—

General—

(*a*) Oral teaching—logical series of questions with definite aim essential—teaching as opposed to lecturing.

(*b*) Use of text-book—emphasis and expansion of important points—selection of topics.

(*c*) Preparation—notes—Bibliography—maps and charts.

(*d*) Supervision of individual work in class as opposed to dictation of notes.

Special—

Early stages.—Narrative—biography—ballad—dramatisation— illustration—maps—museum—excursions.

Later stages—

Class work:

Oral teaching—its importance—questioning to test memory and provoke thought—analogies and illustrations—maps—charts—pictures—models. Museum—excursions.

Individual work—

(*a*) The text-book—its use at home and in class—characteristics of good and bad text-books.

(*b*) Collateral reading—its purpose—assignments and guidance.

(*c*) Study of sources—method—value—limitations.

(*d*) Maintenance of note-books.

(*e*) Problems and exercises.

(*f*) Preparation of maps, plans and charts with reference to (*a*) time, (*b*) causal relations.

7. *Preparation of Courses of Study.*—*Syllabuses*—schemes of lessons—critical study of schemes in use.

8. *The medium of Instruction in Indian schools.*

9. *Laboratory work in History.*—Its value, possibilities and limitations—requisites—library—source books—equipment—study hours—assignments.

10. *Examinations in History.*—Oral and written—their aims and value. Standard tests. The valuation of papers.

D (2) (*f*)—GEOGRAPHY.

1. Scope of modern geography, its essential principles and larger problems and a brief historical sketch of the growth of modern geography, and its pedagogy.

2. The scope and purpose of geography in schools, its educational value and its relation to the other subjects of the curriculum, *e.g.*, Science Subjects, Mathematics, History, Drawing, Hand-work.

3. The organization of courses of study and the construction of syllabuses, with special reference to the following:—

(*a*) the environment of the school (rural or urban);

(*b*) the type of the school (secondary or elementary);

(*c*) correlation with the courses in other subjects;

(*d*) the value of descriptive and argumentative geography at different stages in the course;

(*e*) the position of physical, economic, historical and regional (including home) geography in a scheme of school work;

(*f*) the value and possibilities of practical work including map drawing and elementary cartography, observational work, out-door work and excursions and quantitative work.

4. Preparation, organization and conduct of lessons, types of lessons, causal relation and the place and value of geographical explanations—the adaptation of teaching of geography to systems of auto-education or laboratory methods.

5. Examinations and test papers.

6. Sources of geographical information and collateral reading.

7. Geographical equipment and its use.

D (2) (*g*)—SANSKRIT.

(a) General: Preliminary.

Objects of teaching Sanskrit. The standard to be aimed at in Secondary Schools and Pre-collegiate Sanskrit Schools. The position of Sanskrit in India; its cultural and practical value. The inter-relations of Sanskrit and Indian vernaculars. Comparison of Sanskrit and English, with particular reference to their Grammar and structure. Practical and theoretical study of Sanskrit.

(b) Methods of Teaching.

The translation method and ·ect method as applied to Sanskrit study; traditional methods of Sanskrit study—their merits and defects, the external and internal difficulties of the Sanskrit language and how best to overcome them.

(c) The Early Stages of Sanskrit Teaching.

The sounds of Sanskrit, detailed study of their production, the organic and acoustic methods of studying Sanskrit sounds. The means of teaching them to pupils. The teaching of Sanskrit handwriting; the place of dictation and transcription; translation. Reading and recitation. The Sanskrit text as the centre of instruction; manner of exposition, means of extending the Sanskrit vocabulary. Inductive methods of Sanskrit teaching. Sanskrit Grammar. The use of Sanskrit *Kosas.*

(d) The Later Stages.

The choice of Sanskrit texts. Lines of development in teaching the various aspects of Indian life. Correlation with the Geography and History of India. Correlation with the History of Indian civilization and culture. Study of diction in Sanskrit texts; types of Sanskrit Composition. Sentence structure in Sanskrit. Paraphrase and translation with reference to Sanskrit. The Historical and Comparative Methods of studying the Sanskrit Language and Literature. Study of Organization of Sanskrit teaching in English schools; consideration of time-tables; formation of class libraries and general libraries.

D (2) (*h*) DOMESTSIC SCIENCE.

Detailed syllabus showing the scope of Domestic Science as a School subject.

SUGGESTED TEXT-BOOKS : *Parts* of the following .—

Macnally's Sanitary Hand-book for India, 6th edition, revised and re-written by A. G. A. Russell, printed by the Superintendent, Government Press, Madras.

A Treatise on Hygiene and Public Health: with special reference to the tropics, by Birendra Nath Ghosh, 5th edition, Calcutta Scientific Publishing Co., 1924.

Pre-Requisite:—It is suggested that as a knowledge of Chemistry and Biology is essential to the understanding of the subject, this course be open to Natural Science graduates or Chemistry graduates only.

It is assumed that the elements of Physiology and Personal Hygiene are known to the students.

SYLLABUS

PART I—NUTRITION

(*a*) Their main divisions, *i.e.*, carbohydrates, fats, proteins, mineral water, vitamins.

(*b*) The importance to the body of each constituent.

(*c*) The amount required of each constituent.

2. The cooking of food: Its underlying principles; use and care of fuels; practical work. (See detailed syllabus.)

3. The composition of common foods: a general study by means of charts and diagrams of the relative amount of the above constituents in the foods in every day use.

4. Planning of balanced dietaries for infants, growing children, adults, the aged, expectant and nursing mothers, invalids.

5. Food adulteration.

6. Wise purchase of food.

7. Vegetable foods *vs.* animal foods for diet in India.

PART II—HYGIENE AND SANITATION

I. ***Parasites of Man:***

(*a*) Vegetable parasites:

(1) Yeasts; their relation to (i) Bread-making; (Practical work: the preparation of yeast and making of appams and bread), (ii) Fermentation; (Experiments to show fermentation).

(2) Moulds: illustrated by experiment.

(3) Bacteria: (i) useful bacteria, *e.g.*, those concerned with putrification and decay, and those that take nitrogen from the air for the leguminous grains or pulses, (ii) harmful bacteria—considered under a separate heading.

(*b*) Animal Parasites:

(1) Protozoa, *e.g.*, malarial parasite.
(2) Metazoa, *e.g.*, hook-worm, tape-worm.
(3) Temporary parasite: bed bugs, lice, etc.
Means of prevention and destruction.

II. ***Communicable Diseases:***

(*a*) Prevention; incubation period, symptoms, treatment of—

(1) Diseases carried by insects; *e.g.*, plague, malaria, typhoid, dysentry, sore-eyes.

(2) Diseases carried by bacteria floating in the air; *e.g.*, tuberculosis, colds, coughs.

(3) Diseases communicated through direct or indirect contact; *e.g.*, small-pox, measles, scabies, whooping cough.

(*b*) Susceptibility and immunity: the significance and importance of vaccination and inoculation.

(*c*) Care of patients with communicable diseases for the benefit of both the patient and the community.

(*d*) Personal cleanliness: baths (hot and cold), use of soap, cosmetics, etc.

III. *House-Planning*: according to sanitary principles with attention to.

(*a*) Water-supply.

(*b*) Drainage and conservancy.

(*c*) Ventilation and lighting.

(*d*) Care of house, fittings, furniture, decoration.

IV. *Excursions*:—to see the public market, slaughter-house, water-works, sweeper villages, drainage systems, etc.

PART III—CHILD WELFARE IN HOME AND COMMUNITY

I. *Causes of Infant Mortality.*

(*a*) The evils of child-marriage, and the marriage of the diseased and feeble-minded.

(*b*) Importance of pre-natal care for mother and child.

(*c*) Importance of skilled attendance and absolute cleanliness at birth.

(*d*) Correct feeding of the child up to fifth year and feeding of mother while nursing.

(*e*) Clothing, sleep, cleanliness, illness of the infant.

(*f*) Training of the infant in the right physical habits.

II. *Visits* to Child Welfare centres and baby clinics in hospitals, to see the above principles in practice.

III. *Correlation* with the Psychology and School Hygiene courses in the discussion of the training of children.

IV. *Treatment of Accidents and Injuries.*

PART IV—THE FAMILY INCOME

I. The principles of family expenditure.

II. The meaning and importance of a budget. Preparation of monthly and annual budgets.

III. The keeping of family accounts.

IV. The evils of debt.

Plan for a Practical Course in the Principles and Practice of Cooking.

1. *Equipment.*—A laboratory—kitchen. *For each member of the class*, a small earthen fire-place and a complete set of small utensils. *For the whole class*, grinding stones, one large fire-place, one set of large utensils, dishes for serving cooked food, microscope, test-tubes and spirit lamps, foodscales, measures, pickle-jars, outfit for pasteurization of milk.

2. *Individual work.*—Except where it is impossible to cook in small quantities, each member of the class should work alone.

3. *Correlation.*—The course is directly correlated with the theoretical work in Nutrition, Child Welfare, and should be given either as part of, or parallel to, the theory classes, just as experimental work and theory are combined in Chemistry.

1. (*a*) *Carbohydrates*:

(1) *General Principles.*—Starch: A study of starch grains under the microscope. Test for starch. Experiments to show effect of saliva upon starch, effect of heat upon starch. General principles of cooking starch. The use of *leavening agents* (*soda, etc.*), in cooking.

(2) *Preparation.*—Rice. Comparison of different kinds, before and after cooking. Preparation of paddy. Cooking of rice in different ways. Making of preparations from rice-flour,—as *appam, idli, vivikkai, puttoo, palagarams.*

(3) *Wheat*: Preparation of rolong, wheat-flour, and cracked wheat, and the use of these in cooking *conjees, puttoo, uppumavoo, palagarams, luddoo, chupatties, poories.*

Ragi, Kambu, Cholam: A comparative study of their grains, their preparations, and use in *conjee*, *puttoo*, and bread.

Barley: Use of barley-water and barley *Conjee* for infants and invalids.

(*a*) *Potatoes*: Vairous preparations.

(*b*) *Sugar.*—Comparison of various sugars, e.g., jaggery, cane-sugar, milk-sugar, fruit-sugar, glucose.

Experiments to show the different stages in the boiling of sugar.

Preparation of various sweets.

II. *Fats.*—Comparison of different oils. Their use in cooking. Preparation of curds, butter-milk and ghee. General principles of frying.

III. *Proteins*:

(1) *General Principles.*—Test for protein. Digestion of protein in a test-tube by artificial gastric-juice. Study of effect of heat on albumen.

(2) *Preparation.*—(N.B.—Sub-sections (*a*), (*b*) and (*c*) are optional.)

(*a*) *Mutton.*—A study of the different parts of the animal, and their use in cooking. Cooking of these different parts in curries, cutlets and soup. Preservation of mutton.

(*b*) *Fowl and Fish*—Choice and preparation of fish and fowls for cooking. Cooking in various ways, including soup. Preservation of fish.

(*c*) *Eggs.*—The choice and purchase of eggs. Boiling of egg in a test-tube to watch the different stages in coagulation.

Preparation of eggs in various ways, *e.g.*, egg-flip, omelet, poached, custards, etc., use of eggs in baked and fried cakes.

(*d*) *Leguminous vegetables.*—Preparation of dhal, beans, and gram in curries and vadais, *palagarams, omapodi, thosai, murukku, etc.* Roasting of peas, ground-nuts, bengal-gram, and their nutritive value.

IV. *Minerals and Vitamins.*—Cooking of fruit and vegetables. Preservation of fruits and vegetables *e.g.*, lime-pickle, mango-pickle, cucumber-pickle, etc.; spicing.

V. Beverages.—Preparation and comparative value of coffee, tea and cocoa.

To be done in connection with lesson on Child Welfare

The testing and care of milk. Preparation of bottles for infants of different ages. Pasteurization.

The testing and treatment of drinking-waters; preparation and care of filters.

APPENDIX IX.

EXAMINATIONS IN LAW

Note 1.—No special text-books in the case of Acts of the Indian Legislature are prescribed, but students will be expected to have a mastery of the matter which is usually contained in the best commentaries as well as a knowledge of the bare text of the Act.

2. Text-books have been prescribed where necessary with a view to indicating the general scope of each subject, but questions will not be confined to the books prescribed.

FIRST EXAMINATION IN LAW

1. *Jurisprudence*:—

    1. Salmond: Jurisprudence.
    2. Maine's Ancient Law, Ed. Pollock.

2. *Roman Law*:—

    1. Moyle's Translation of Justinian
    2. Leage: Roman Private Law,

       or

       Buckland: Elements of Roman Law.

3. *Contracts*:—

    1. Anson's Law of Contracts.
    2. Pollock and Mulla—Indian Contract Act.
    3. T. S. Venkatesa Ayyar: Law of Contracts.

4. *Torts*:—

    1. Pollock on Torts.
    2. Salmond's Law of Torts.
    3. The Law of Torts by S. Ramaswami Ayyar.

5. *Indian Constitutional Law*:—

    1. Ilbert: Government of India.
    2. Cowell: Courts and Legislative Authorities in India.
    3. Trevelyan: Civil Courts of British India.
    4. Government of India Act of 1919 and Rules made thereunder.

B. L. DEGREE EXAMINATION.

1. *Property*:—

   Williams: Real Property.

   Strahan: Equity.

2. *Hindu Law:—*

Mayne's Hindu Law and Usage.

3. *Muhammadan Law:—*

Mulla's Muhammadan Law.

4. *Criminal Law:—*

Kenny: Outlines of Criminal Law—Indian Penal Code.

Note.—The candidates need study only the portion relating to the general principles and they may omit the special portions of the book.

5. *Evidence:—*

Willis on Evidence.

The Indian Evidence Act.

6. *Land Tenures:—*

Soundararaj Iyengar: Indian Land Tenures.

M.L. DEGREE EXAMINATION

BRANCH I—JURISPRUDENCE.

1. *General Jurisprudence:—*

Austin: Lectures on Jurisprudence.

Jethro Brown: The Austinian Theory of Law.

Allen: Law in the Making.

Gray: Nature and Sources of Law.

Holland: Jurisprudence.

Korkunov: Theory of Law.

Laski: Foundations of Sovereignty and other Essays.

Willoughby: Fundamental Concepts of Public Law.

Rattigan: Science of Jurisprudence.

Duguit: Law in the Modern State.

2. *Comparative Jurisprudence:—*

Miraglia: Comparative Legal Philosophy.

Fouillée: Modern French Legal Philosophy.

Dillon: The Laws and Jurisprudence of England and America.

Sherman: Roman Law in the Modern World.

Mackenzie: Studies in Roman Law with comparative views of the Laws of France, England and Scotland.

Smith: General view of European Legal History and other Essays.

Montesquieu: The Spirit of Laws.

Bryce: Studies in History and Jurisprudence—Vol. II.

Burge's Colonial Laws.

Macdonald: Islamic Jurisprudence.

A General Survey of Events, Sources, etc.—Continental Legal History Series.

Pound: Interpretation of Legal History.

3. *History of the Common Law of England:—*

Pollock: The Expansion of the Common Law.

Pollock: The Genius of the Common Law.

Carter: English Legal Institutions.

Jenks: History of English Law.

Holdsworth: History of English Law.

Pound: Readings in the History of the Common Law.

Pollock & Maitland: History of English Law.

Holmes: Common Law.

Stephen: History of the Criminal Law.

Anglo-American Essays on Legal History.

4. *History of Equity and Equity Jurisprudence:—*

Story: Equity Jurisprudence.

Maitland: Equity.

Snell: Equity.

Bretts: Leading Cases.

White & Tudor: Leading Cases.

Buckland: Equity and Roman Law.

5. ***Legislation:—***

Bentham: Theory of Legislation.

Brown: Underlying Principles of Modern Legislation.

Dicey: Law and Public Opinion.
Ilbert: Legislative Methods and Forms.
Maxwell or Craies: Interpretation of Statutes.
Beal: Rules of Interpretation.

6. *One of the following:—*

(i) *Roman Law:—*

Sandars: Institutes of Justinian.
Moyle: Institutes of Justinian.
Poste: Gaius.
Sohm: Roman Law.
Muirhead: Historical Introduction to Roman Law.
Brun: Fontes Juris Romani.

N.B.—A knowledge of the Latin text is necessary.

(ii) *Continental Civil Law:—*

Brissaud: French Private Law.
Cachard: French Civil Code.
Schuster: Principles of German Civil Law.
Wang: The German Civil Code.

(iii) *Ancient Law and Custom:—*

Vinogradoff: Historical Jurisprudence.
Allen: Law in the Making.
Sadler: Relation of Custom to Law.
Maine: Ancient Law.
Early Law and Custom.
Early Institutions.

Lowie: Primitive Society.
Malinowski: Crime and custom in Primitive Society.
Kocourek & Wigmore: Sources and Ancient and Primitive Law.
Primitive and Ancient Legal Institution.

Wigmore: The Panorama of Law.

BRANCH II—CONSTITUTIONAL LAW.

1. *Constitutional Law of England:—*

Willoughly: The Fundamental Concepts of Public Law.
Amos: The English Constitution edited by Lord C. J. Hewart.
Dicey: Introduction to the Law of the Constitution,

Anson: Law and Custom of the Constitution.
Ridges: Constitutional Law of England,
Emden: Principles of British Constitutional Law.
Bicknell: Cases on the Law of the Constitution.
Forsyth: Cases and Opinions on Constitutional Law.
Thomas & Bellot: Leading Cases on Constitutional Law.
Keir and Lawson:—Cases on Constitutional Law.
Goodnow: Comparative Administrative Law.
Comer: Legislative Functions of National Administrative Authorities.
Goodnow: Cases on American Administrative Law.
Robson: Justice and Administrative Law.
Hewart (Lord, C. J.): The New Despotism.
Ghosh: Comparative Administrative Law.

2. *Indian Constitutional Law*:—

Ilbert: The Government of India.
Ilbert & Meston: The New Constitution of India.
Rangaswami Ayyangar: The Indian Constitution.
Trevelyan: Constitution and Jurisdiction of Courts of Civil Justice in British India.
Cowell: Courts and Legislative Authorities in India.
Mukherjee: Indian Constitutional Documents.
Mukherjee: Indian Constitution.
Eggar: The Laws of India and the Government of India.
The Indian Statutory Commission Report—Vol. I.
Ghosh: Comparative Administrative Law.
The Government of India Act of 1919 and Rules made thereunder.

3. *Constitutional Law of the British Dominions and other Countries*:—

Jenks: The Government of the British Empire.
Keith: Responsible Government in the Dominions.
Keith: Imperial Unity and the Dominions.
Keith: Constitutions and Governments of the Empire.
Todd: Parliamentary Government.
Brand: Union of South Africa.
Lefroy: Constitutional Law of Canada.

Moore: Commonwealth of Australia.

Brunet: The German Constitution.

Story: Commentaries on the Constitution of the U.S.A.

Evans: Leading Cases on American Constitutional Law.

Minty: Constitutional Laws of the British Empire.

Duncan Hall: The British Commonwealth of Nations.

Hurst: Great Britain and the Dominions.

Keith: The Sovereignty of the British Dominions.

4. *Public Authorities, Corporations and Officers*:—

Charter: Law relating to Public Officers.

Moore: Act of State in English Law.

Robertson: Civil Proceedings by and against the Crown.

Robinson: Public Authorities and Legal Liability.

5. *Law of Elections*:—

Rogers: Elections.

Hammond: The Indian Candidate and the Returning Officer.

Vinayaka Rao: Law and Practice of Elections.

Hammond: Reports of Indian Election Cases—1922, 1925, 1929.

6. *British India and the Indian States* (with special reference to Treaties):—

Aitchison: Treaties, Sanads and Engagements.

Lee Warner: Native States of India.

Tupper: The Indian Protectorate.

Panikkar: Relations between the Indian States and the Government of India.

Report of the Butler Committee.

The Crown and the Indian States. (P. S. King & Co.).

BRANCH III—INTERNATIONAL LAW.

1. *Public International Law*:—

Hall: International Law.

Lawrence: Principles of International Law

Holland: International Law.

Oppenheim: International Law.

Westlake: International Law.

Smith: International Law.

Lawrence: Documents illustrative of International Law.

Pitt-Cobbett: Leading Cases on International Law.

Scott: Cases on International Law.

Bentwich: Cases and Statutes on International Law.

British Year Book of International Law.

Vattel: Law of Nations.

Grotius: Law of Peace and War.

J. B. Moore: Digest of International Law.

Alvarez: International Law from the American Stand-point, 1922.

Annual Digest of International Law Cases, 1925, 1926, 1927 and 1928.

2. *Private International Law:—*

Westlake: Private International Law.

Dicey: Conflict of Laws.

Foote: Private International Jurisprudence.

Cheng: Rules of Private International Law determining capacity to contract.

Beal: Cases on the Conflict of Laws.

3. *History of International Law:—*

Walker: A History of the Law of Nations.

Phillipson: International Law and Custom of Ancient Greece and Rome.

Visvanatha: International Law in Ancient India.

Phillimore: Three Centuries of Treatise of Peace.

Garner: International Law and the World War.

Garner: Recent Developments in International Law.

Nippold: The Developments of International Law after the World War.

Richard: Progress of International Law and Arbitration.

Marvin: Evolution of World Peace.

Perris: Short History of War and Peace.

Vattel: The Law of Nations.

Grotius: The Law of War and Peace.

4. *Prize Law:—*

Barclay: Handbook of the Law and Usage of War and Prize Law.

Tiverton: Principles and Practice of Prize Law.

Loreburn: Capture at Sea.

Roscoe: English Prize Cases.

Garner: Prize Law during the World War.

Grant: British and Colonial Prize Laws.

Colombos: Law of Prize.

Hull: Digest of cases decided in British Prize Courts (1914-27).

5. *One of the following as a Special Subject:—*

(a) *Outlines of the History of Diplomacy and Diplomatic Practice:—*

Hill: A History of Diplomacy in the International Development of Europe.

Heatly: Diplomacy and the study of International Relations.

Gooch: Recent Revelations of European Diplomacy.

Satow: A Guide to Diplomatic Practice.

Warden: Origin, Nature and Progress of Establishments.

Barclay: Problems of Diplomacy.

Borchard: Diplomatic Protection of Citizens Abroad.

Diplomatic Memoirs and Correspondence of Statesmen and Ambassadors, e.g., Bismarck, Metternich, House, etc.

N.B.—A knowledge of French should be required of the student who takes this special subject.

(b) *League of Nations:—*

Woolf: International Government.

D. J. Hill: The Modern State and International Organisation.

Pollock: League of Nations.

Butler: League of Nations.

Epstein: The League of Nations—A Survey of the past ten years.

Oppenheim: The League of Nations and Its Problems.

Fachiri: The Permanent Court of International Justice, its Constitution, Procedure and Work.

Hudson: The Permanent Court of International Justice.

Morris: International Arbitration and Procedure.

Year Books of the League of Nations.

Barnes: History of the International Labour Office.

Baker: The League of Nations at work.

Wheeler-Bennet: Information on the Permanent Court of International Justice with Supplements, 1925, 1926, etc.

Rappard: International Relations as viewed from Geneva, 1925.

Official Journal of the League of Nations from 1922 onwards.

Ralston: Law and Procedure of International Tribunals.

Problems of Peace by various Writers—2 series.

(c) *International Law in the Far East:—*

Lawrence: War and Neutrality in the Far East.

Latifi: Effects of War on Property.

Washington Conference Papers: Volume III—The Pacific and the Far East.

Takahashi: International Law during the Chino-Japanese War 1890.

Lindley: The Acquisition and Government of Territories in International Law.

Piggot: Exterritoriality.

Smith & Sibley: International Law during the Russo-Japanese War.

Takahashi: International Law applied to the Russo-Japanese War.

BRANCH IV—TORTS AND CRIMES.

1. *Theory of Crimes and Punishments including Criminology:-*

Beccaria: Crime and Punishment.

Gillin: Criminology and Penology.

Sutherland: Criminology.

Parmelee: Criminology.

De Quiros: Modern Theories of Criminality.

Subrahmanya Pillai: Principles of Criminology.

2. *Law of Crimes and Criminal Procedure in India:—*

Statute Law on the subject.

3. *History of Criminal Law and Procedure in England.*

Pollock & Maitland: History of English Law.

Stephen: History of the Criminal Law.

Kenny: Outlines of Criminal Law.

Holdsworth: History of English Law.

4. *Comparative Criminal Jurisprudence including Procedure:—*
   Penal Codes of Germany, France and Japan.
   Callender: American Courts, (Chapters on Criminal Courts).
   Du Boys': History of Criminal Law in France, etc.

5. *Law of Torts and its History:—*
   Clerk & Lindsel on Torts.
   Street—Foundation of Legal Liability—Vols. I & III.
   Holdsworth: History of English Law.
   The Law of Torts by S. Ramaswami Ayyar.

6. *Negligence and Nuisance and Libel and Slander:—*
   Beven: Negligence.
   Garett: Law of Nuisance.
   Odgers: Libel and Slander.

BRANCH V—LAW OF OBLIGATIONS.
(*Contracts and Torts*).

1. *Law of Contracts and its History:—*
   Leake on Contracts.
   Pollock on Contracts.
   Salmond on Contracts.
   Anson on Contracts.
   Street—Foundation of Legal Liability.
   Holdsworth: History of English Law.

2. *Law of Torts and its History:—*
   Clerk & Lindsell—Torts.
   Pollock—Torts.
   Salmond—Torts.
   Street—Foundation of Legal Liability.
   Holdsworth: History of English Law.
   The Law of Torts by S. Ramaswami Ayyar.

3. *Remedies—Specific Performance, Injunctions and Damages.*
   Collett—Specific Relief.
   Bannerjee—Specific Performance.
   Kerr on Injunctions.
   Mayne—Damages.
   Snell—Principles of Equity.
   Fry—Spacific Performance.

4. 5. 6. *Any three of the following:—*

(a) *Negotiable Instruments:—*

Byles on Bills.

Chalmers—Negotiable Instruments.

Bhashyam & Adiga—Negotiable Instruments.

(b) *Sale of Goods and Bailments and Carriers:—*

Benjamin—Sale.

Blackburn—Sale.

Chalmers—Sale of Goods.

Beal on Bailments.

Story—Bailments.

Disney—Carriers.

Macnamara—Carriers.

Carver—Carriage by Sea.

Indian Railways Act.

(c) *Agency and Partnership:—*

Story: Agency.

Bowstead on Agency.

Lindley: Partnership.

Singhal: Partnership.

(d) *Domestic Relations, Husband and Wife, Parent and Child, Master and Servant:—*

Eversley: Domestic Relations.

Guardian & Wards Act.

Smith: Master and Servant.

Workmen's Compensation Act. (English and Indian).

(e) *Negligence, Nuisance, Libel and Slander:—*

Beven: Negligence.

Garrett: Nuisance.

Gattey: Libel and Slander.

BRANCH VI—MERCANTILE LAW.

1. *Company Law:—*

The Indian Companies Act and the English Law on the subject.

Buckland: Companies Act.

Lindley on Companies.

Palmer on Companies.

2. *Any one of the following:—*

(a) *Bankruptcy:—*

The Indian Insolvency Acts.

Williams on Bankruptcy.

(b) *Patents, Copyrights, and Trade Marks:-*

Sen: Law of Monopolies in British India (Tagore Law Lectures).

Copinger: Law of Copyright.

Danile: Patents, Designs and Trade Marks.

(c) *Insurance—Life, Fire and Marine:—*

Chalmers: Marine Insurance.

Bunyon: Fire Insurance.

Bunyon: Life Insurance.

Arnold on Insurance.

Porter on Insurance.

3. *Banking including Negotiable Instruments:—*

Tannan: Banking Law and Practice in India.

Jacobs: Bills of Exchange.

The Indian Negotiable Instruments Act.

Grant: Banks and Banking.

4. *Sale of Goods:—*

Statute Law, English and Indian.

Benjamin on Sales.

5. *Agency and Partnership:—*

Story: Agency.

Story: Partnership.

The Sections in the Indian Contract Act with a Comparative Study of English Law on the subject.

Lindley: Partnership.

Blackwood Wright: Partner and Agent.

Bowstead: Agency.

6. *Maritime Law*:—

Scrutton: Charter Parties.

Carver: Carriage by Sea.

Marriott: Law of Collisions.

BRANCH VII—PERSONAL LAWS.

(No lists of books are necessary to indicate the scope of examination in this group which will be of a very advanced character. A knowledge of the original sources and texts of Hindu Law will be required).

BRANCH VIII—TRANSFER OF PROPERTY.

1. *Law of Transfer of Property in England and India*:—

Hood & Challis: Conveyancy Acts.

The Indian Act with a Comparative Study of English Law on the subject.

Carson: Real Property Statutes.

2. *Vendors and Purchasers and Mortgages*:—

Dart on Vendors and Purchasers.

Williams on Vendors and Purchasers.

Seaborne on Vendors and Purchasers

Coote on Mortgages.

Ghose on Mortgages in India.

Fisher on Mortgages.

3. *Wills, Succession and Bankruptcy*:—

Jarman on Wills.

Theobald on Wills.

The Indian Acts on the subject.

Henderson: Intestate and Testamentary Succession in India.

Williams: Bankruptcy.

4. *Compulsory and Judicial Sales.*

Macnamara: Void and Judicial Sales.

Dutt: Compulsory Sales in British India.

Civil Procedure Code: Execution Sales.

The Land Acquisition Act.

5. *Law of Private Trusts*:—
   Lewin: Trusts.
   The Trusts Act.
   Godefroi: Trusts and Trustees.
   Story: Equity Jurisprudence.

6. *Public Trusts and Charities*:—
   Ganapathi Ayyar: Hindu and Muhammadan Endowments.
   The Acts on the subject.

BRANCH IX—REAL AND PERSONAL PROPERTY.

1. *Real Property*:—
   Williams: Real Property.
   Goodeve: Real Property.
   Digby: History of Real Property.
   Holdsworth: History of English Law.

2. *Personal Property*:—
   William: Personal Property.

3. *Highways including Foreshore and Seashore*:—
   Pratt: Highways.

4. *Easements*:—
   The Indian Acts on the subject.
   Peacock on Easements.
   Gale on Easements.
   Goddard: Easements.
   Coulson: Law of Waters.
   Gould on Waters.
   Kinny on Irrigation.

5. *Land Tenures in India—Customary*:—
   Baden Powell: Land Systems.
   Soundararajiengar: Land Tenures.
   Guha: Land Systems of Bengal and Bihar.

6. *Land Tenures in India—Statute-Law*:—
   The Estates Land Act.
   The Bengal Tenancy Act.

APPENDIX X.

Syllabuses for courses of Study in Medicine

Syllabus in Inorganic Chemistry for the Pre-Registration Examination.

Candidates will be expected to understand the elements of Chemistry included in the syllabus for the Chemistry part of the Intermediate Examination, and in addition to have an elementary knowledge of the following subjects:—

The general properties of solids, liquids and gases.

The gas laws and the kinetic theory of gases.

The general properties of solutions, including osmotic pressure and the methods of measuring it, both direct and indirect.

Electrolysis and the theory of ionic dissociation, including the theory of hydrogen-ion concentration and its measurement.

The law of mass action and its application to chemical equilibriums.

Colloids, including the effect of surface on chemical actions.

Catalysis and the general conditions of catalytic actions.

Some elementary ideas on the constitution of matter, the classification of the elements; and radioactivity.

Practical Examination.

Candidates will be expected—

to be familiar with the ordinary materials and apparatus used in laboratories, and with such operations as filtration, solution, distillation, drying, precipitation, crystallisation, and extraction with immiscible solvents;

to be familiar with the use of a chemical balance and the use and calibration of graduated flasks, pipettes and burettes;

to prepare simple inorganic substances;

to purify or to make an intelligent attempt to purify a known substance;

to perform simple quantitative exercises, such as the determination of melting points, boiling points, densities, and the

determination of the amount of water in a substance or of the amount of ash left on the ignition of a substance;

to perform any easy gravimetric estimation, for example, a sulphate as $BaSO_4$ carbon dioxide by direct weighing, chloride-ion as AgCl, calcium as CaO;

to prepare and use in simple volumetric estimation standard solutions of acids, alkalis, permanganate, iodine, thiosulphate and silver nitrate;

to determine the approximate hydrogen ion concentration of a given solution by means of indicators;

to attack with intelligence any simple chemical problem, such, for example, as the separation of two known substances and the preparation of a standard solution of a substance that cannot be weighed.

The Examiners will use their discretion as to whether or not books may be allowed for the whole or part of the practical examination.

Syllabus in Physics for Pre-Registration Examination.

The whole syllabus is to be treated in an elementary manner and with reference to the subsequent work of the student. The treatment will be mostly experimental and in no case will mathematics be required beyond elementary algebra and geometry.

General Physics:—Units and measurements of length, mass and time; and the derived units and measurements of velocity, acceleration, force, work and energy, power and efficiency. The laws of motion and conditions of equilibrium of bodies under the action of forces. Simple machine. Uniform circular motion and the centrifuge.

The elements of hydrostatics including methods for the determination of densities. Elementary principles governing the flow of liquids in rigid and elastic tubes. Viscosity and surface tension and their measurements.

Gas laws including the diffusion of gases and elementary ideas of the kinetic theory of matter.

Heat:—The effect of heat on bodies including thermometry, dilatation, change of state and calorimetry. Convection, conduction and radiation of heat. The relation between heat and work.

Sound:—The production, propagation and reception of sound waves. The measurement of velocity, frequency and wave length of sound.

Light:—Outlines of the wave theory of light including interference, diffraction, double refraction and polarization of light. Simple geometrical optics, including reflection and refraction at plane and curved surfaces. The range of electromagnetic waves and various kinds of spectra. Optical instruments including the spectrometer, the photographic camera, the eye as an optical instrument, the microscope and the polarimeter.

Electricity and Magnetism:—The elementary facts and phenomena of magnetism and static electricity.

The production of electric currents and the chemical, magnetic and heating effects of them. Units and measurements of current strength, potential difference and resistance. Thermo-electric couples.

Electro magnetic induction, and Ruhmkorf's coil, Electric discharge in rarefied gases, Cathode and X-Rays.

Syllabus in Practical Physics.

Practical Physics:—Students are expected to have a practical knowledge of the following subjects:

General:—The use of graphs and diagrams.

Elementary mensuration and mechanics.

The use of a delicate balance, thermometers and the barometer.

The use of the vernier, the screw-gauge and the spherometer.

The determination of densities of solids, liquids and gases.

The use of the falling plate. Fletcher's trolley or Atwood's machine to determine *g* and *n*.

The simple pendulum.

The determination of surface tension by (a) the rise in a capillary tube, (b) the surface tension balance.

The comparison of viscosities of liquids.

Heat:—The determination of melting and boiling points.

The determination of the co-efficients of expansion of solids, liquids and gases.

The determination of specific and latent heats by the method of mixtures and of specific heats by the methods of cooling.

The determination of the mechanical equivalent of heat.

The use of hygrometers.

Sound:—The use of the sonometer and resonating columns of gases.

Light:—The use of Photometers.

The determination of focal lengths of spherical mirrors, thin lenses and combinations of thin lenses.

The determination of the wave length of light by a diffraction grating.

The use of the polarimeter, the spectrometer and the microscope.

Electricity:—The use of electric batteries.

Mapping magnetic fields.

The experimental proof of the Laws of Electrolysis.

The measurement of resistance by the metre bridge and Post Office Box.

The comparison of E.M.F's by (1) Tangent Galvanometer, (2) the Potentiometer.

The use of the electrical calorimeter.

The measurement of the conductivity of an electrolyte.

The use of a Thermo-couple

BIOLOGY.

REVISED SYLLABUS FOR COURSE OF STUDY IN BIOLOGY FOR THE PRE-REGISTRATION EXAMINATION.

The examination in *Biology* shall comprise the subjects included in the following syllabus, which is intended only to indicate its general scope and character:—

A. General Biology.—

The distinctive properties of living and non-living matter.

The differences between animals and plants.

The nature and properties of protoplasm.

The structure of the cell; cell division and gametogenesis.

Conjugation and fertilization.

Segmentation and formation of germ layers.

Structure and function of animal tissues.

B. Botany.

The structure, life-history, and physiology of Yeast, Bacteria, Mucor, Penicillium, Spirogyra, Chara, fern.

The elements of the morphology and physiology of the Angiosperms embracing (*a*) the structure (macroscopic and microscopic) of the root, stem and leaf; (*b*) the structure of a typical flower and modifications of the type; (*c*) the inflorescence, and the principal types of branching; (*d*) the structure and development of the seeds and embryo; (*e*) the principal types of fruits; (*f*) the dispersal of seeds and fruits; (*g*) the main facts in relation to nutrition, growth and reaction to environment.

The reproduction and life-history of Angiosperms.

C. Zoology.—

The structure, life-history and physiology of Amœba, Paramæcium, Euglena, Hydra, Earthworm, Leech, Cockroach and the anatomy of Frog and Rabbit. (Only an elementary knowledge of the muscular system of the frog, and the muscular and nervous system of the rabbit will be required).

An elementary knowledge of the more important types of animal parasites, protozoan, and metazoan, such as Entamœba, Trypanosoma, Plasmodium, Liver-fluke, Tape-worm, Round-worm, etc.

The leading types of reproduction in animals. The main features of the larval history and metamorphosis of the frog, the embryonic membranes and placenta of the fœtus of the rabbit.

The chief external characters and poison apparatus of the poisonous snakes of South India.

D.—

Variation, Heredity, Natural Selection, Evolution treated in an elementary manner.

Practical Examination.

Each candidate must be prepared to examine microscopically, to dissect and to describe the specimen of parts of the animals and plants enumerated in the foregoing syllabus with the exception that for the skull of the rabbit will be substituted that of the dog.

Syllabus in Organic Chemistry.

The examination in Organic Chemistry shall comprise the following:—

The ultimate analysis of organic compounds, and estimation of carbon, hydrogen, nitrogen, sulphur, phosphorus and the halogens.

The determination of empirical, molecular, and structural formulæ, and of molecular weights of organic substances.

The constitution and most important reactions and relationships of the following groups of compounds, illustrated in each case by a reference to a few of their most important members:—

Aliphatic series.—

Paraffin. Unsaturated hydro-carbons. The different classes of alcohols and their derivatives. Halogen and nitro derivatives of the hydro-carbons. Aldehydes. Ketones. Acids. Sulphonic acids. Simple ethers. Esters. Amines. Phosphines. Arsines. Amino-acids. Amides. Nitriles. Cyanides. Urea.

Aromatic series.—

Benzene. Toluene and their simple derivatives.

Phenols with special reference to phenol, pyrocatehol, resorcinol, and hydroquinol, pyrogallol.

Benzyl alcohol, Benzaldehyde, benzoic acid, salycylic acid, gallic and tannic acids, phthalic acids, phenophthalien, Glucosides, and Alkaloids.

Practical Examination.

The detection of the following elements:—Carbon, hydrogen, nitrogen, sulphur, phosphorus and the halogens.

Preparation of chloroform and of iodoform from ethyl alcohol and preparation and hydrolysis of an ester and of an amide.

Tests for and reactions of methyl alcohol, ethyl alcohol, glucose, cane sugar, phenol, salicylic acid, formates, acetates, oxalates, cyanides, tartrates, citrates, morphine, strychnine; quinine, cinchonine and urea,

The preparation of a fatty acid from a fat. The determination of the molecular weight of a fatty acid by titration.

Candidates will be required to bring to the practical examination note books containing record of their previous practical work. These note books must be certified by the teachers of the candidates as being the actual working notes made by them in the laboratory.

(Examiners will use their discretion as to whether or not the candidates may be allowed books for the whole or part of the practical examination).

PHYSIOLOGY.

Syllabus.

Muscle and Nerve.—

Structure and properties of muscle—effects on contraction of load and fatigue—chemical, thermal and electrical changes in muscle—conduction in nerve—Polarisation phenomena in nerve—reaction of degeneration.

Central Nervous System.—

Reflex action in 'Spinal' frog and in man. Structure and functions of the Spinal cord. Spinal mechanism of co-ordinated movements.

Structure and functions of the Brain Stem. Connections and functions of cranial nerves.

Cerebellum.

Structure and connections of the Cerebrum and its functions. Cerebral localisation.

Autonomic nervous system.

Special senses—

Muller's law of Specific irritability of nerves. Weber's law.

Structure of the eye-ball. Light reflex. Mechanism of accommodation. Refraction of the eye. Common optical defects. Use of ophthalmoscope. Perimeter. Retina and its connections. Formation of retinal images. Colour vision and contrast.

Structure of auditory and vestibular apparatus. Auditory sensations. Labyrinthine impressions.

Structure of barynx. Production of voice. Use of Laryngoscope.

Cutaneous sensations. Gustatory and olfactory sensibility.

Digestion.—

Secretion and properties of the digestive juices and bile.

Movements of the stomach and intestines.

Absorption of foodstuffs.

Metabolism.—

Metabolism of proteins, fats and carbohydrates. Glycosuria. Estimation of Metabolism. Nitrogen-balance. Influence of work and starvation on Metabolism. Normal Diet.

Temperature of man and its regulation.

Blood.—

Formed elements, their origin, life history and functions. Haemoglobin and its chemistry, Haemolysis. Coagulation. Reaction of blood. Estimation of volume of blood, corpuscles and Haemoglobin.

Circulation.—

Physiological anatomy of the Heart, and action of valves. The mechanism of heart pump. Causation of heart beat. Properties of cardiac muscle. Factors influencing the activity of cardiac muscle. Output of heart. The nervous regulation of the heart. Heart reflexes. Coronary circulation.

Blood pressure. Velocity of blood. Pulse. Capillary circulation. Vasomotor mechanism. Chemical regulation of blood-flow. Influence of exercise on circulation.

Lymph and its formation. Lympho-gogues. Cerebro-spinal fluid.

Respiration.—

Mechanics of Respiratory movements. Chemistry of respiration. Regulation of respiration. Effect of changes in the air breathed. Estimation of total respiratory exchange and of composition of expired and alveolar air.

Excretion.—

Urine, its composition and characters, Secretion of Urine.

Physiology of Micturition.

Skin and skin glands. Their structure and functions.

Endocrine Organs.—

The Physiology of reproduction

Secretion and properties of Milk.

HISTOLOGY.

Preparation of specimens of normal tissues, either fresh or previously prepared, so as to demonstrate their minute structure.

Application of the commoner histological methods.

Recognition and description with diagrams, of microscopic preparations of any normal tissue or organ.

PRACTICAL PHYSIOLOGY.

The methods employed for the demonstration of fundamental physiological processes and performing simple experiments.

Theory: Biochemistry Syllabus.

I. The Chemistry of Food,

(a) Inorganic,

(b) Organic Chemistry of proteins, fats and carbohydrates,

(c) Vitamins.

II. The Chemistry of Digestion and absorption in Man.

III. Metabolism—General and special.

IV. The Chemistry of Respiration and acidosis.

V. The Chemistry of Blood and Lymph.

VI. The Chemistry of Urine and faeces.

Practical.—

Properties and Re-actions of (a) Carbohydrates:—Glucose, Levulose, Maltose, Lactose, Canesugar, Starch, Glycogen and Dextrins.

(b) Fats—olive oil, oleic acid and Palmitic acid, glycerol and cholesterol.

(c) Proteins—Albumin and Globulin, Metaproteins—Proteoses—Peptones, amino acids and mucin, gelatin, and casein.

Estimation of Carbohydrates, Glucose, Levulose. Maltose, Lactose.

Estimation of amino-acids.

Properties of Digestive Enzymes—Biles—analysis of Gastric contents.

Qualitative tests and properties of Blood and urine.

Quantitative Estimation of chlorides, urea, Sugar, Non-Protein-Nitrogen, createnine and uric acid in Blood, and chlorides, sulphates, Phosphates, urea, sugar, createnine, Ammonia acidity and uric acid in urine.

Estimation of alveolar carbon-di-oxide by Fredericia's method.

SYLLABUS IN PHARMACOLOGY.

The course in Pharmacology consists of lectures, demonstrations in experimental pharmacology and practical pharmacy, the

aim being to impart a general knowledge of the mode of action of drugs treated from an experimental point of view.

The lectures are devoted chiefly to the discussion of the effect of drugs and poisons on the tissues of man and animals and how these effects may be utilised to relieve or cure disease. The total number of lectures should not be less than 35. The general scheme of the lectures is as follows:—

The mode of action of drugs treated from an experimental stand-point.

Pharmacology of the Central Nervous System:—

Alcohol; General anaesthetics; Hypnotics of the methane series; Bromides; Opium and Cannabis indica.

The Caffeine group: Camphor; strychnine.

Peripheral Nervous action.—Curare group; nicotine group; Belladonna group; pilocarpine group. Aconite and Veratrine.

Local Anaesthetics:—Cocaine and its substitutes; Hydrocyanic acid.

Pharmacology of the Genito-urinary system.—

Diuretics and urinary antiseptics.

Ergot; Hydrastis.

Gland Secretions.—

Adrenalin: Pituitary extract; Thyroid extract; Parathyroids and Insulin.

Pharmacology of the Circulation.—

Digitalis group.

Pharmacology of the Vessels.—

Vaso-constrictors and Vaso-dilators.

Pharmacology of respiration.—

Stimulants; Depressants; Anti-spasmodics; Expectorants; Saponins; Ipecacuanha; Respiratory disinfectants.

Pharmacology of the Alimentary Canal.—

Bitters; Volatile oils; Purgatives; Astringents; Emetics;

Anthelmintics.

Pharmacology of Temperature regulation.--

Anti-pyretics; Salicylates.

Drugs acting on the excretion of Uric Acid.—

Colchicum; Atophan.

Skin irritants and *Counter-irritation.*

Antiseptics and *disinfectants.*

Drugs acting on metabolism.—

Phosphorus.

Specific Therapy.—

Cinchona alkaloids; Mercury; Arsenic; Bismuth; and Antimony.

Ion-action and *Salt action.*

Certain Positive ions.

Hydrates and Carbonates of the Alkalies. Soap.

Certain Negative ions. Acids.

General action of heavy metals.—

Iron; Silver; Zinc; Copper; Lead; Aluminium; Manganese; Chromium: Gold. Radio-active metals.

Ferments. Sweetening agents; Demulcents and Emollients.

Vitamins.

Prescription writing; Incompatibility; Synergism; Antagonism.

The physical and chemical properties of the drugs are considered only in so far as they concern their action and the methods of administration. A selection of the more important pharmaceutical preparations is also considered.

Demonstrations in Experimental Pharmacology are used to illustrate the lectures as far as practicable.

Practical Pharmacy: the course to be not less than 20 meetings.

MENTAL DISEASES.

The course of Mental Diseases shall comprise instruction in the following types of Disorder:—

(i) Failure of Mental Development—

Idiocy; Imbecility; Weak-mindedness.

(ii) Mania-Depressive Insanity—

Mania; Melancholia; Stupor; Alternating and Circular conditions.

(iii) Delusional Insanity and Paranoia.

(iv) Dementia—

Primary or Adolescent (D. Præcox); Consecutive or Terminal; Organic; Para-Syphilitic (G.P.I.); Senile.

(v) Insanity due to drugs—

Alcohol; Indian Hemp; Opium and its derivatives; Cocaine; Lead.

(vi) Epileptic Insanity.

(vii) Hysteria and Psychasthenia.

(viii) Exhaustion Psychoses—
Post Febrile Insanity; Acute Delirium; Neurasthenia.

(ix) Epochal Insanities—

Insanity of Puberty and Adolescence; Insanity of the child bearing period; Insanity of Climacteric; Insanity of old age.

(x) Mental Disorder, associated with Physical diseases—

Diseases of the Thyroid Gland; Polioencephalitis; Syphilis; Tubercle, Nephritis, Diabetes and Gout.

(xi) The Medico-Legal and Social relationships of Insanity.

(xii) General Treatment.

APPENDIX XI

B. S. Sc. DEGREE EXAMINATION

ENTOMOLOGY AND PARASITOLOGY.

Entomology.—The Structure and Life-history of insects with special reference to Diptera.

The structure, life-history, habits, classification and relation to disease of:—

(i) The Blood sucking Nematocera and Brachycera, especially, Culicoides, Phlebotomus, Simulium, Culex, Anopheles, Stegomyia, the Leptidae and Tabanidae.

(ii) The Muscidae, Acalypterae, and Calypterae, especially, Musca, Stomoxys, Glossina, Hippobosca, and their allies, Sarcophaga.

(iii) The House fly and other diptera which frequent human dwellings.

(iv) The myasis-producing flies of man and animals.

(v) Siphonaptera, Rhyncota, Siphunculina, and Mallophaga.

(vi) Spiders, ticks and mites.

The poison apparatus of snakes and other venomous animals.

ENTOMOLOGICAL SURVEYS AND INSECT CONTROL

Protozoology.—An introduction to the Protozoa, Sarcodina, Ciliata, Flagellata, Sporozoa; their relation to disease. Malaria surveys.

Helminthology.—The structure, life-history and classification of Nematodes, Cestodes, Trematodes and Hirudinea. The control of helminth infection.

The course shall consist of lectures and practical work in the laboratory and in the field; on the collection and preservation of insects, worms and protozoa; detailed study of the more important insects and worms by means of dissections and other preparations; the breeding of mosquitoes, flies and other insects; entomological surveys and the identification of insects; the detection and identification of the commoner parasites and ova in the blood, urine, faeces of man and animals; demonstrations of macroscopic and microscopic preparations.

BACTERIOLOGY

The course of lectures shall include the classification, characters and life-history of the pathogenic and the commoner non-pathogenic microbes, fungi and yeasts, more especially those concerned with the causation and spread of endemic and epidemic

diseases and of diseases of animals transmissible to man; the bacteriology of air, water, soil, and food; disinfectants, their standardisation and use; immunology and serology; and bacterial vaccines and their use in the diagnosis, prevention and treatment of infectious disease as well as in the identification and classification of bacteria.

The course of laboratory work shall comprise practical training in general laboratory technique, sterilisation, preparation of media, the study in detail of the commoner microbes by ærobic and anærobic and other methods, the separation of pure cultures and identification, general and special; microscopical and cultural methods used in the bacteriological examination of air, water, soil, sewage and sewage effulents, foods, special attention being paid to the routine methods employed in the diagnosis and prevention of disease; the standardisation of disinfectants and estimating the comparative value of disinfectant processes by their lethal action on microbes; the preparation of bacterial vaccines, the application of serological tests.

Demonstrations of special methods and processes and tests which cannot be conveniently carried out by the class shall be given from time to time.

CLIMATOLOGY AND METEOROLOGY

The elements of climatology as applied to Public Health. Air pressure and its influence on health; barometers, corrections for barometers. Temperature, thermometers and their uses, methods of making observations, maximum and minimum thermometers, solar and terrestrial radiation thermometers, soil thermometer, thermographs, the influence of temperature on health and ventilation. Humidity:—hygrometers, direct and indirect, determination of humidity, the influence of humidity on health and ventilation. Rainfall, rainguages, the influence of the configuration of a region on the rainfall, the influence of rainfall on health. Winds:—estimation of direction and velocity and pressure, determination of the direction and strength of air currents, prevailing winds, monsoons, cyclone and anticyclone systems, weather charts and weather forecasts. Atmospheric electricity, thunderstorms.

Special consideration of the meteorological conditions prevailing in the Presidency and in India generally, and theiri influence on the prevalence and spread of certain epidemic and infectious diseases.

PHYSICS AND CHEMISTRY IN RELATION TO PUBLIC HEALTH

The General principles of Physics as applied in Public Health in heating, cooling, lighting, ventilation, drainage, and filtration. The general principles of Inorganic, Organic, and Physical Chemistry in relation to the methods and processes in common use in Public Health.

The character and composition of air, water, soil, sewage, their impurities and the methods of detection.

The character, composition and adulteration of the more commonly used foods, condiments and beverages.

The characters and composition of the important disinfectants and antiseptics, their modes of action and standardisation. Methods of analysis commonly used in Public Health work, interpretation of results in the framing of opinions and reports.

Laboratory work as shown below:

Water.—Sampling, physical examination, qualitative tests, quantitative determination of the total solid residue, dissolved gases, carbonates, chlorides, sulphates, Nitrites, Nitrates, Organic matter in terms of "Albuminoid Ammonia", organic Carbon and Nitrogen and as Oxygen absorbed, Ammonia, Phosphates, Lime, Magnesia, Hardness, Poisonous metals. Microscopic examination of the deposit.

Sewage.—Chemical and Physical examination of sewage and effluents after treatment.

Air.—Quantitative estimation of Carbon dioxide, detection of Sulphuretted hydrogen, Nitrous acid and Nitric acid.

Soil.—Determination of size of grain, determination of sand and clay, determination of water capacity, porosity and permeability, determination of Ammonia and Organic Nitrogen in the soil, and of Carbonic acid in the ground air.

Food.—Qualitative and quantitative chemical examination of milk, condensed and preserved milk powders, curds, butter-milk, butter, ghee and other animal fats, edible vegetable oils, cheese, confections and honey preserves, wheat flour and other cereal flours, bread, starch, tea, coffee, cocoa, vinegar, lime-juice, ærated waters, alcoholic drinks, tinned and preserved foods, the detection and estimation of the common adulterants in the above. Detection and estimation of antiseptics, preservatives, colouring matters, poisonous and deleterious substances in food.

Disinfectants.—The chemical examination of the more important disinfectants, more especially the estimation of Chlorine in Bleaching powder and chlorine solutions, formaldehyde, phenol, Demonstrations of special methods and processes and tests which cannot be conveniently performed by the class will be given from time to time.

THE PRINCIPLES AND PRACTICE OF PUBLIC HEALTH

The Administration of Public Health, the practice in India and more particularly in this Presidency compared with that in England and Scotland, the United States, and European Countries. The Local Self-Government Department, and the Minister of Health. The Director of Public Health and his staff. The Public Health Commissioner and the Surgeon-General in their

relations with the Public Health Department. The Local Authorities, District Boards, Taluk Boards, Union Boards. The Municipalities. The Health Officer, District and Municipal and the City of Madras. The Collector, the Village Munsiff. The Village Panchayat and the Village. The Health Staff in Municipalities and Rural Areas. Other Bodies, Organisations and Officials with whom the Health Officer may have dealings. The law in relation to Public Health. The English Public Health Acts and the Rules and Regulations framed thereunder. The laws in force in the Presidency together with the Rules and Regulations made under these, Government Orders, Departmental and other Memoranda and Codes.

Note.—Detailed instruction in Sanitary Laws and Administration as outlined above, the practical application of these Laws and the discussion of problems arising in the administration of Public Health in the Presidency, will be given in a series of Special Lectures by an Assistant Director of Public Health.

Water.—The properties of water, the quantity and supply of water, sources of water-supply, storage and delivery, impurities, the chemical examination of water, the bacteriological examination of water, the interpretation of the results of a water analysis, the law relating to water-supply.

Air and Ventilation.—The composition and physical properties of air, impurities in air, diseases produced by impurities in air, examination of air, quantity of air required for ventilation, systems of ventilation, heating and cooling, examination of the sufficiency of ventilation.

Soils, Sites and Habitations.—Geological origin of soils, soil features which influence health, conformation, exposure, vegetation, irrigation, temperature, micro-organisms, organic matter, ground air, ground water, dampness, soil pollution, examination and comparison of soils, soil in relation to special diseases; Sites and habitations, design and construction, housing problems; Civic surveys and town planning; Schools, hospitals, other public buildings, markets, slaughter-houses, cowsheds, bakeries, grain stores; Hotels, hostels, tenement and lodging houses, labourers' dwellings, construction camps, temporary dwellings such as pilgrim camps, evacuation camps, inspection of sites and dwellings and other buildings.

Conservancy and Sewage.—Collection, removal, and disposal of town and house refuse, conservancy systems, latrines, urinals, collection, removal, and disposal of night soil, appliances, conservancy depots; collection, removal and disposal of sullage, the removal of sewage by water carriage, appliances and fittings, drains and sewers, ventilation, inspection and maintenance, disposal of sewage, purification of sewage, examination of sewage,

disposal of trade, effluents after treatment, the law relating to conservancy and sewage.

Note.—Detailed instruction in (1) water supply and distribution, (ii) Air supply, ventilation, cooling and heating, (iii) sites, environment, construction of buildings, and sanitary fittings, (iv) the collection, treatment, and disposal of sewage and other refuse, (v) Nature, strength and fitness of structural materials employed in sanitary works, (vi) Design of municipal, domestic, and other special sanitary works, (vii) mensuration and drawing in relation to elementary building construction and the construction and use of scales and plotting of land surveys and sections, will be given by the Lecturer, Sanitary Engineering, in a special course of lectures.

Food.—Classification of foodstuffs, nutritive functions and nutritive value of foodstuffs, quantity of food required, dietaries and their construction, diseases connected with food. Meat, fish, eggs, milk, butter, and other animal and vegetable fats, grains and cereals, vegetables and fruit, sugar, bread, cheese, concentrated, prepared and preserved foods, the inspection and examination of foods and foodstuffs, beverages and condiments, the law relating to foods and the prevention of adulteration.

Industrial Hygiene.—Offensive and dangerous trades and the resulting nuisances and methods of control, industries and factories, industrial areas and factory sites, smoke and dust nuisance, industrial poisoning, disabilities and diseases due to industries and trades, the law relating to factories and dangerous and offensive trades.

Epidemiology and Infectious Diseases.—The nature and origin of infectious diseases, immunity and protection, causes and modes of spread of epidemics and epizootics, contagious diseases and diseases arising from insanitary conditions, the study of the more common infections and epidemic diseases, *e.g.*, cholera, small-pox, plague, relapsing fever, typhus fever, beri-beri, chicken-pox, diarrhœa and dysentry, enteric fevers, hydrophobia, influenza, kala-azar, leprosy, malaria, malta fever, measles, cerebro-spinal fever, dengue, pneumonia, tuberculosis, tetanus, yellow fever, and certain diseases of animals which may be transmissible to men, *e.g.*, anthrax, foot and mouth disease, glanders, rabies, trypanosome infections; puerperal pyæmia. The prevention of infectious disease. The law in relation to infectious disease.

Note.—A special course of lectures on the natural history of the common epidemic diseases of India and more especially of South India, and on the practical applications of the above principles to the control of infectious diseases in the Presidency, will be delivered by an Assistant Director of Public Health. Another

course of lectures on the diseases of animals, etc., will be delivered by a Veterinary Officer.

Medical Inspection of School Children and School Hygiene.—The principles and methods employed; control of epidemic diseases in schools; school buildings, class rooms, seats and desks, common rooms, staircases, tiffin rooms, hostels, playgrounds, ventilation, and lighting, heating and cooling, water-supply and sanitary conveniences, sites and locations.

Note.—Practical demonstrations of the above principles will be given by the Medical Officer of Health during his course of outdoor training.

Maternity and Child Welfare.—Infant mortality and maternal mortality, causes, and influences, maternity and child welfare schemes, child welfare centres, health visitors and midwifery services.

Note.—A special course of lectures on the conditions prevailing in the Presidency and the measures taken to meet them will be given by an Assistant Director of Public Health.

Demonstrations of the working of a maternity and child welfare schemes will be given by the Medical Officer of Health during his course of outdoor training.

Vital Statistics.—Population, census, estimates of population, registration of births, deaths, and marriages, calculation and correction of rates, causes of death, mortality and mobility rates, influence of race, age, sex, migration, occupation, housing season, climate, social and hygienic conditions, diseases on the above. Life tables, the collection and interpretation of statistical data, determination of the value of statistical data, statistical methods, frequency curves, correlation, contingency, probability.

Note.—A special course of lectures on the above principles will be delivered by an Assistant Director of Public Health.

Practical Sanitation.—Public Health surveys, village sanitation, sanitation of camps, improvised methods, management of fairs and festivals, personal hygiene, the disposal of the dead. Disinfection by heat and chemicals, disinfecting stations, disinfestation, the law relating to disinfection and burial.

Note.—A special course of lectures on the management of fairs and festivals in the Presidency will be delivered by an Assistant Director of Public Health.

Vaccination.—Shall consist of a course of special lectures, demonstrations, and practical work in the preparation, standardisation and testing of vaccine lymph, vaccination and verification of results, the law and procedure in the Presidency, vaccination returns and statistics. Small-pox in the Presidency and its control.

Tuberculosis.—Shall consist of a special course of lectures on the practical aspects of tuberculosis, dealing with its etiology, pathology, diagnosis, prophylaxis and treatment, especially directed to its clinical and preventive sides, the control of tuberculosis, tuberculosis institutions, administration. Demonstrations to be given by the Superintendent of the King Edward Memorial Tuberculosis Institute.

Venereal Diseases—Shall consist of a special course of lectures and demonstrations on the practical aspects of the prevention of venereal disease, to be delivered by the Medical Officer in charge of the Venereal Wards of the General Hospital.

Town Planning.—Shall consist of a course of special lectures on town planning to be delivered by the Director of Town Planning.

Infectious Diseases.—Shall consist of a course of lectures, clinics, and demonstrations at the Hospitals for Infectious diseases, Madras, on the diagnosis and management of infectious diseases, and the administration of infectious diseases hospitals, to be delivered by the Superintendent of the Hospitals.

Instruction in Public Health Administration.—Will be given by a Medical Officer of Health approved by the Syndicate of the University of Madras, during the Spring and Vacation terms as provided for in the regulations above. It will include instructions on the relationship of the Health Officer with the local Authority and with the General Medical Practitioner, the operation of the various acts in every day practice, the routine practice of conservancy, sanitation, control of infectious diseases, inspection of foods, and dangerous and offensive trades, inspection of plans, sites, buildings, schools, insanitary areas, and all the other duties that a Health Officer may be expected to perform.

APPENDIX XII.

FIRST EXAMINATION IN ENGINEERING.

Syllabuses.

PURE MATHEMATICS.

Co-ordinate Geometry.—Simple properties of the straight line, circle, parabola, ellipse and hyperbola (in Cartesian and polar Co-ordinates) and easy problems thereon.

Calculus.—Differentiation: simple application of the derivatives to geometry and mechanics: approximations and small errors: theorems of mean value: evaluation of indeterminate forms: maxima and minima of functions of one variable: change of variable: curvature: evolute, involute: tracing of well known curves from their Cartesian and polar equations: Partial differentiation: envelopes: Taylor's and Maclaurin's series and their applications.

Integration of standard forms, integration by substitution, by the theory of rational fraction; and by parts; simple formulae of reduction: integration as a process of summation: areas, and lengths of plane curves: volumes and surfaces of solids of revolution: double and triple integrals as applied to centre of mass, moment of inertia and centre of pressure.

APPLIED MATHEMATICS.

Statics.—Composition and resolution of forces: moments: couples: conditions of equilibrium of forces in one plane: simple machines: friction: work: virtual work: centre of gravity: stable and unstable equilibrium: general conditions of equilibrium of forces in more than one plane: the common catenary: the para bolic catenary: light string on a rough curve.

Hydrostatics.—Transmission of fluid pressure: thrust of fluid on plane and curved surfaces: centre of pressure: thrust of fluid on bodies wholly or partly immersed: conditions of equilibrium of floating bodies: stability of floating bodies. Metacentre.

Pressure of atmosphere : Boyle's law : simple hydrostatic machines *e.g.* the hydraulic press, the common pump, air pump, the diving bell, syphon.

Dynamics.—Composition and resolution of velocities and accelerations; relative velocity, linear and angular; motion in a straight line with constant acceleration; Newton's Laws of motion; Momentum and impulse; Principles of conservation of linear momentum and energy.

Projectiles; impact; motion in a circle; simple harmonic motion; simple pendulum.

Displacement of a plane lamina in its own plane: translation and rotation: instantaneous centre: the pole curves. Moment of inertia and product of inertia; principal axes of inertia of a lamina; Kinetic energy of a rigid body rotating about a fixed axis: compound pendulum; conservation of angular mementum; Motion of a rigid body in one plane.

N.B.—Problems may be solved with the help of the calculus. Engineers' units will be employed.

PHYSICS.

Heat.—Temperature measurements; gas thermometer; pyrometers, their construction and uses; electrical resistance, thermo-electrical, radiation and optical pyrometers. Expansion of solids, liquids and gases and their practical applications. Heat as quantity, and methods of calorimetry. Calorimeters: Louis Thomson's, bomb, and Boys. Vaporisation: evaporation and ebullition; effect of pressure on the boiling point. Properties of saturated vapours; critical constants. Conduction of heat; convection, radiation and the laws of cooling. The nature of heat; determination of the dynamical equivalent of heat. The laws of thermodynamics. Carnot's cycle. Absolute scale of temperature.

Light.—The propagation of light; photometry. The laws of reflexion and refraction of rays of light: The sextant: passage of a ray through a prism. The direct reflection and refraction of small pencils at plane and spherical surfaces passage through a lens. Formation of images. The telescope and microscope. The compound nature of white light: formation of a pure spectrum: the achromatic lens. Polarization.

Magnetism and Electricity.—Magnetic poles; lines of force; forces and couples on magnets in the magnetic field. Direction of fields due to current in a straight wire and coils. The effect of introducing an iron core into the magnetic circuit. Induced magnetisation. Magnetic properties of iron and steel; hysteresis. The more common cells; standard cells; current; E.M.F.; Ohm's law. Electrical units; Coloumb; Ampere; Volt; Ohm; Watt; Watt hour. Specific resistances. Measurement of resistances; Wheatstone bridge. Conductors in series and parallel. Drop of potential.

Potential energy of a circuit carrying current placed in a magnetic field and derivation of forces and couples on circuit. Application to moving coil instrument.

Electro magnetic induction.—Maxwell's law. Dynamos and motors. Induction coil.

Charge.—potential; capacity of condensers; discharge current; energy of charged condensers,

TECHNICAL CHEMISTRY.

(Only an elementary treatment is expected).

A. Physical Chemistry and its applications.—

Kinetic theory.—Gas Laws and their importance in Industrial processes. Refrigeration and liquefaction of gases-critical points—Joule Thompson effect—principle of counter currents systems. Henry's Law of partial pressures-partition co-efficient—miscible, non-miscible and partly miscible liquid systems and principles of steam distillation processes in Industry. Catalysis—an elementary theoretical treatment—examples from Industries illustrating in Oxidation-reduction hydrogenation and the like processes.

Elementary treatment of the theory of Electrolytic dissociation and its application in electroplating with details regarding choice of electrolyte, current density and efficiency—nature of the deposits with and without adhesives, etc.

B. Chemistry of Engineering Materials.—

1. *Technology of water*—impurities and sources—Drinking water source and its evaluation from a hygienic point of view-purification methods of filtration—filters—water supply—chemical sterilisation of water.

Boiler feed waters.—Temporary and permanent hardness—boiler compounds—water softening and tyres of softeners—Iron in water and its treatment.

2. *Fuels.*—Solid, liquid and gaseous, fuels—Proximate and ultimate analysis of fuels-evaluation of fuels-calorific value and intensity—chemistry of combustion—economic utilisation of fuels—temperature control and measurement—Analysis of flue gases and its significance.

3. *Paint and varnishes.*—Definitions—white colours—coloured pigments (blue, green, yellow, red, brown, black) lakes. Varnishing oils—chemistry of drying-solvents. Corrosive and anti-corrosive pigments—Resins—Shellac—Balsam—Lacquer varnishes.

4. *Building Materials.*—Lime—cement—plaster—clay—sand—kilns and the reactions in them. Gypsum, hydraulic lime-cement, (natural and portland). Chemistry of cement manufacture and its analysis—The phenomena of setting and hardening and the factors that influence them,—bricks—porcelain and refractories, adhesives.

5. Abrasives and polishes-rubber and insulating materials; Lubricants.

6. *Metallurgy.*—A general treatment of non-ferrous metals and their alloys. Iron and steel-corrosion—Electricity in metallurgical operations.

7. A few inorganic industries like those of sulphuric acid, nitrogen, chlorine, ammonia and phosphates.

APPLIED MECHANICS.

Simple Stresses and Strains.—Compressive, tensile, shearing, and bearing stresses; Hooke's law, stress-strain and load-extension curves; dead, live and shock loads; factors of safety and working stresses; work and resilience; elastic modulii, Poisson's ratio and relation between elastic constants; temperature stresses; composite bars.

Properties of Sections.—Calculation and graphical determination of areas, positions of centroid and neutral axes, moments of inertia, modulii of section and radii of gyration, with special reference to structural shapes.

Beams.—Cantilever, simply supported and overhanging beams subject to symmetrical or unsymmetrical static loading, and fixed beams subject to symmetrical static loading only—calculation and graphical determination of bending moments and shear forces; relation between load distribution, shearing force and bending moments. Theory of simple bending—proofs of formulæ and their applications. Strength of beams.

Deflection.—Relation between curvature, slope and deflection; Proofs of standard formulae and their applications. Stiffness of beams. Evaluation of deflection from bending moment diagrams.

Statically Determinate Frames.—Calculation and graphical determination of forces in members of simple roof trusses and braced girders.

Thin Cylinders.—Stresses and strains in thin cylinders subject to uniform internal or external pressure or both.

Riveted Joints.—Resistance of a rivet or bolt in single or double shear and in bearing, and the working strength of a rivet or bolt; strength of lap and butt joints; efficiency of joints.

CIVIL ENGINEERING I.

Building Materials.—

(*a*) *Stones, Bricks and Tiles.*—Different varieties, their characteristics, tests and uses; methods of quarrying and blasting rock and dressing stone; choice and suitability of materials for manufacture of bricks and tiles and different methods of manufacture of same.

(*b*) *Limes, Cements, Mortars and Concrete.*—Different varieties; their properties, tests and uses; choice and suitability of materials for manufacture of limes and cements, and methods of manufacture of same. Standard mixtures for different purposes. Artificial stones, their preparation and uses.

(*c*) *Timbers.*—Varieties, classification, characteristics, tests and uses of Indian timbers. Defects in timbers and causes of decay. Seasoning and preservation. Fire proofing. Market forms and standard sizes for different purposes.

(*d*) *Iron and Steel.*—Varieties, classification, composition, characteristics, tests and uses of iron and steel. Important Iron ores and their properties. Preparation and treatment of ores for smelting. The blast furnace and its accessories. Manufacture of Iron and Steel by different processes. Modern steels and alloy steels, their properties and uses. Different treatments of iron and steel. Manufacture of castings for different purposes and general foundry practice. Rolling mills for mild steel sections and types of British Standard Sections. British Standard Specifications for structural steel. Detection of defects and flaws in iron and steel.

(*e*) *Paints and Varnishes.*—Different kinds of paints and varnishes and other protective coverings used in building construction, their preparation, properties and uses.

(*f*) *Miscellaneous Materials.*—Other metals and non-metals commonly employed in building construction, their properties and uses.

CIVIL ENGINEERING II.

Building Construction.—

General.—Preliminary investigations as to suitability of site for different types of buildings; trial pits and boarings; determination of bearing capacity of soils, etc.

Foundations.—Drainage of building site; excavation and trenching; methods of timbering excavations; shoring and underpinning; methods of improving bearing capacity; ordinary foundations such as masonry footings, grillage and piled foundations and simple calculations pertaining thereto.

Plain Masonry and Brick work;—Different kinds of bonds and methods of laying; coursed and uncoursed rubble, ashlar; coping, cornice and string courses; finishing and painting; damp-proof construction; anchorages in walls; fire resisting construction for flues, chimneys and fire places; dressings such as door-jambs and door and window sills; flat, segmental, pointed and relieving arches; inverts; centering for arches and striking of centers; vaults and domes.

Floors and Roofs.—Floors of different materials; terraced and pitched roofs; jack-arched floors and roofs; steel beam and girder floors—simple design calculations; timber, mild steel and composite roof trusses,—simple design calculations; different types of roof coverings and ceilings and constructional details.

Carpentry and Joinery.—Different kinds of joints in timber; doors, windows and ventilators; partitions; scaffolding and falsework; simple roof and bridge frames.

Stairs.—Different types of stairs—stright and spiral—in timber, plain masonry, iron and concrete, simple design calculations.

Columns.—Details and method of construction in brick, stone, iron and concrete.

MECHANICAL ENGINEERING.

An elementary knowledge is required of the construction and working of steam boilers; Prime movers:—steam, oil, gas and petrol engines; water turbines and Pelton wheels; Machine tools.

Rudiments of Machine Design.—Fastenings; bolts, nuts, keys and cotters; riveted joints and connections generally; pipes and cylinders; shafting and journals; pedestals; wall fixing, etc.

ELECTRICAL ENGINEERING.

Electric Circuit.—Practical system of Electrical units; conductors and insulators; Ohm's Law; Kirchoff's circuit Laws and applications.

Magnetic Circuit.—Principles of Electro-magnetic induction; calculation of Ampere turns; Hysteresis; Eddy currents.

Measurements.—General principles of construction and use of moving coil; moving iron; induction; Dynamometer and hot wire instruments; Ohmmeter; fluxmeter.

Electrical Machines.—General principles, characteristics and uses of different types of continuous current generators and motors only; uses of elementary alternating currents.

Batteries.—Acid and Alkaline types; characteristics and uses.

Power Supply and Distribution.—Outline of a small D.C. Plant. House wiring. Accessories. Testing faults.

SURVEYING.

Chain Survey.—Principles; use and adjustments of instruments; clearing obstructions; plotting; calculation of areas; Check, scale; planimeter.

Compass Survey.—Prismatic compass. Use and adjustments; Magnetic variation; survey with and without chain; checks.

Plane Table.—Setting and use. Simple alidade, prismatic and telescope alidades; Resection. Checking work: Survey with or without chain. Three and two point problems.

The Telescope.—Principles; refraction and curvature; reciprocal levelling.

Levelling.—Levelling, forms of field book; types of levels; uses and adjustments; fly levels; spot levels; longitudinal and cross section levelling; contouring on land and water; hand levels; hill contouring; ghat roads; barometric heights.

Earthwork and Capacity of Reservoirs.—By contour lines and cross-section levelling.

GEOMETRICAL DRAWING.

Practical plane geometry; proportional lines and angles. Areas of plane figures. Methods of drawing and chief properties of plane curves; parabola, ellipse and hyperbola; cycloidal, spiral and other common curves. Graphical determination of centre of gravity and moments of inertia of plane areas.

Practical solid geometry and projection; lines, points and planes. Projection of simple solids; regular solids, sections of solids; development of plane and curved surfaces. Tangent planes. Interpenetration of solids. Determination of shadows. Isometric projection. Elements of perspective.

BUILDING DRAWING.

(*a*) Detailed drawing of building details as dealt with in Building Construction course (*vide* syllabus Civil Engineering II).

(*b*) Working drawings of small buildings from sketches and specifications together with simple design calculations.

MACHINE DRAWING.

(*a*) Copying accurately to scale drawings of simple machine details such as bolts, nuts, keys, cotters, rivets, and riveted joints, pipes and pipe joints, bearings, hangers, pedestals, wall fixings, etc.

(*b*) Drawings of simple machine and engine parts from sketches. Ability to supply additional views and give some idea of the proportions of simple machine parts.

BACHELOR OF ENGINEERING.

Civil Branch.

SYLLABUSES.

PURE AND APPLIED MATHEMATICS.

PURE MATHEMATICS.

1. *Solid Co-ordinate Geometry.*—

The plane, the sphere, the ellipsoid, the paraboloid and the hyperboloid; standard forms of their cartesian equations; Tangent planes and normals; sections.

2. *Elementary differential equations.*—

Ordinary differential equations involving two variables.—Equations of the first order and first degree; standard forms; The general linear equation with constant co-efficients; The method of solution by operators; Equations reducible to the linear form with constant co-efficients.

Simultaneous linear equations of the first and second order with constant co-efficient.

3. Fourier's series and elements of Harmonic Analysis.

N.B.—Easy problems involving direct applications of the general theorems are expected to be answered.

APPLIED MATHEMATICS.

(*A*) *Dynamics of a particle.*

(i) *Rectilinear motion.*—Equations of motion; simple harmonic motion; constant disturbing forces; periodic disturbing forces; damped and forced oscillations; various laws of resistance.

(ii) *Motion in two dimensions.*—

Cartesian co-ordinates.—Composition of simple harmonic motions; motion of a projectile in a vacuum, in a resisting medium; different laws of resistance; equation of energy; revolving axes.

Polar Co-ordinates.—Velocity and acceleration in polar co-ordinates; central forces; differential equation of orbit; Law of inverse square.

Constrained motion.—Tangential and normal acceleration; motion on a fixed smooth or rough curve; motion in a circle; motion in a smooth or rough cycloid, time of describing an arc; motion on a revolving curve; motion of a particle in a revolving tube.

(iii) *Motion of two or more particles.*—Principles of conservation of energy and momentum; two particles connected by a string passing over a pulley; Impulses; motion of a chain; motion of varying mass.

(*B*) *Dynamics of a rigid body.*—

(i) Moments and products of inertia; momental ellipsoid; momental ellipse; equimomental systems; principal axes.

(ii) D'Alembert's principle; general equations of motion; Independence of translation and rotation; Impulsive forces.

(iii) *Motion about a fixed axis.*—Fundamental theorem. The compound pendulum. Centre of oscilliation. Torsional oscillation. Bifilar suspension. Pressures on the fixed axis in the case of bodies symmetrical and not symmetrical. The ballistic pendulum. Impulsive forces. Centre of percussion.

(iv) *Motion in two dimensions.*—Finite forces. General principles of conservation of energy and of linear and angular momentum. System with one degree of freedom. Oscillations about equilibrium. Impulsive forces.

(v) *Motion in three dimensions.*—

Angular velocities about more than one axis. General equations of motion of a body in three dimensions referred to axis whose directions are fixed. Principles of momentum and energy.

N.B.—Easy problems involving direct applications of the general theorems are expected to be answered.

STRENGTH OF MATERIALS AND THEORY OF STRUCTURES—I.

Compound Stresses and Strains.—Stresses under combined strains, principal stresses and principal planes; ellipse of stress; application to different cases.

Behaviour of Materials under Test.—Methods of testing and appliances used in determining the elastic constants and testing materials to destruction under tension, compression, shear, torsion and bending; impact and hardness tests; tests under repeating and alternating stresses; fatigue of metals; factors of safety and working stresses; latest advancements in the science of testing materials.

Circular Shafts.—Theory of pure torsion, shear stress, angle of twist, strength and resilience; horse-power transmission; combined torsion and bending with or without end thrust; determination of principal stresses and maximum shear stresses; equivalent bending moments and equivalent twisting moments.

Helical Springs.—Extension under axial pull and maximum shear stress; angle of twist and torsion and maximum direct stress; strength and resilience.

Thick shells and cylinders.—Stresses and strains under internal and external pressures.

Deflection.—Principle of work as applied to deflection; deflection of simple frames; elastic curves for beams of uniform or variable section; distribution of shear stresses in a beam section; energy stored in a beam and its resilience.

Continuous beams and propped cantilevers.—Theorem of three moments, calculation and graphic determination of reactions, bending moments, shear forces, deflection and slope; Characteristic points.

Columns and Struts.—Long and Short columns; axial and eccentric loading; effect of end conditions; equivalent lengths and slenderness ratio; eccentricity factor; column formulae, their derivation and practical applications; laterally loaded columns and struts.

STRENGTH OF MATERIALS AND THEORY OF STRUCTURES—II.

Retaining walls and Dams.—Theories of earth-pressure; graphical constructions for earth pressure; general conditions of stability; the middle third rule; lines of resistance; distribution of pressure on foundations and maximum intensities of pressure. Rankine's theory as applied to foundations.

Moving Loads and Influence Lines.—Curve of maximum bending moments and maximum shear forces; the enveloping parabola and determination of equivalent uniformly distributed load; influence lines for reaction, shear force, bending movement and deflection; influence lines for forces in members of braced girders and spandril-braced arches; reversal of stress under live load.

Suspension Bridges and Arches.—Stresses in loaded cables and hanging chains; stiffening girders; moments and shears in such girders; elastic theory of the rigid arch; Eddy's Theorem; stresses due to rib-shortening and temperature changes; reactions and horizental thurst in rigid, two-hinged and three-hinged arches; reaction loci; lines of resistance through rigid and hinged arches under dead and live-leading.

Structural Frames.—Calculation and graphical determination of forces in members of roof trusses with knee-braces, in braced girders of variable depth with or without secondary members and in trestles; displacement diagrams for braced girders; analyses of simple types of indeterminate frames. Portal and sway frames,

HYDRAULICS.

Fluids at rest.—Properties. Intensity of pressure; transmissibility and measurement of pressure; total pressure; centre of pressure.

Floating bodies. Equilibrium, stability, metacentre.

Fluids in motion.—Ideal fluid—Steady and unsteady motion—Stream line—Bernoulli's theorem. Applications—Venuri meter—Vortex motion.

Orifices and notches. Standard conditions—Co-efficients of contraction, velocity, discharge and their determination for small orifices. Form of jet—Suppressed contraction—Large orifices—Drowned and partially drowned orifices—Velocity of approach—Sudden expansion and contraction—Mouth pieces—Time of discharge. Weir: standard conditions—Rectangular—End conditions—Triangular, trapezoidal, velocity of approach; drowned weirs—Height of sill—Nappe and its stability—Flat crested weirs—Gauging Weirs—weirs and anicuts—Bridge openings—Sluices.

Pipes—Fluid friction—Viscosity—Turbulent motion—Critical velocity—Loss of head and hydraulic gradient—Straight and circular pipes of uniform diameter and hydraulic mean depth—Emprical formulæ, Chezy, D'Arcy, Kutter and Logarithmic—Bends—Elbows—Valves—Variation of velocity in cross section—Practical problems—Diameter of pipes—Branch pipes—Hydraulic transmission of power—Variable diameter—Syphons—Hammer action.

Channels—Variety of forms—Steady motion in uniform channels—Formulæ D'Arcy, Bazin, Kutter, Logarithmic—Variation of velocity in cross section—Measurement of discharges—Sections of aqueducts and sewers—Best form of channels—Non-uniform flow—Backwater.

Measurement of flows, discharges—Pipes, meters—Pitot tube—Chemical method channels; weirs—Formulæ, Floats—Ripple method—Gauges—Current meters.

Impact—Pressure on fixed and movable vanes—Work done.

Water wheels, Turbines, Piston engines.

Pumps—Reciprocating, centrifugal—Hand—Ram-Airlift etc.

STRUCTURAL ENGINEERING—I.

Plain Masonry.—

Retaining Walls and Dams.—Practical profiles; data, formulae and empirical rules for design; methods of relieving side pressure and improving stability; provision for drainage; expansion joints; other important details of construction; detailed design of gravity and panelled retaining walls and gravity and arched masonry dams.

Bridges and Culverts.—Data for design; practical rules for design; water-way for bridges and economical spacing of piers; usual dimensions for high-way and railway bridges; provision for drainage; design of piers and abutments; detail design of arched bridges and culverts from specifications.

Miscellaneous Structures.—Principles of design and important details of construction of structures such as chimneys, tanks, towers, domes, etc.

Reinforced Concrete.—

General Principles.—Theory and design of rectangular beams, Tee-beams, slabs and columns; arrangements of laying reinforcement; leading systems of reinforcement; economical methods of construction; design and details of form-work.

Buildings and Bridges.—General principles of design; methods and details of construction; detailed design of different types of buildings and high-way bridges.

Tanks and Towers.—General principles of design; methods and details of construction; detailed design of low and high tanks from specifications.

Retaining Walls.—Cantilever and counterfort types—their detailed design from specifications; methods and details of construction.

Miscellaneous Structures.—General principles relating to the design and construction of bunkers, gantries, domes, jellies, pile and raft foundations.

Foundations.—Difficult foundations such as coffer-dams, well foundations, cylinder foundations, cribwork and caissons and concrete monoliths—details of construction and methods of working.

STRUCTURAL ENGINEERING II.

Structural Steelwork.—

Beams and Girders.—Properties of British Standard sections; detailed design of beams, compound girders, built-up plate girders and lattice girders; limiting spans and economical depths; design of flanges and webs; curtailment of flange plates; determination of size, pitch and arrangement of rivets; types of stiffness and rules for their spacing; design of joints and connections; methods of fabrication; detailed design of crane and gantry girders of built-up plate and lattice girder types and typical details of construction.

Columns and Struts.—Plain and built-up sections; assumptions regarding end conditions; practical formulae for design; detail design of strenchions for buildings and of compression members of roof trusses and lattice girders; design and details of caps, bases and brackets for stanchions; joints and splices on stanchions; size, pitch and arrangement of rivets on flanges of plated stanchions; lacing on stanchions.

Roof Trusses.—Types of roof trusses; limiting spans; rise and camber; economical spacing; data for design; detailed design of members including purlins, joints and connections; wind bracing on roof trusses; detail design of steel framed sheds.

Bridge-work.—Data for design; detailed design of high-way and railway bridges of plate and lattice girder types; economical proportions, standard dimensions, minimum clearances and head-room; different types of floors; transverse and lateral bracing; end bearings; provision for drainage; other important details of construction. Important considerations and general principles relating to the design of cantilever, suspension, swing, lift and bascule bridges.

Miscellaneous Structures.—General principles relating to the design of tanks and towers, structural parts of cranes, tall chimneys, bunkers, domes, jetties, pipe-lines, etc.

Timber.—General principles of design in timber with special reference to structures such as roof trusses, beams and columns, bridges, trestles and form-work for reinforced concrete structures.

Erection.—General methods of erection of buildings and bridges.

HIGHWAY ENGINEERING.

Importance of roads; classification of roads; preliminary investigations; reconnaissance surveys; considerations affecting alignment, obligatory points, grades, ruling gradients, curves and widths; availability of materials of construction; different types of roads and pavements; methods of construction; materials of construction, their tests, properties and specifications; treatment of road surfaces; sub-drainage and surface drainage; pipes, drains, gutters and culverts; section of roads; camber and crown formulæ hill roads and causeways; construction and maintenance of embankments and cuttings; repair of roads. Highway bridges, types of bridges; their alignment; different types of floors and their relative advantages. Guard rails, road signs, side walls, curbs, railings, etc. Arboriculture; rules for preparation of road projects. Standard specifications for different types of roads. Machinery employed for construction, maintenance and cleansing. Latest advancements in highway engineering.

Note.—Earth work calculations are dealt with under surveying.

RAILWAY ENGINEERING.

Importance of railways, classification of railways, preliminary investigations, reconnaissance, preliminary and location surveys; obligatory points, grades, ruling gradiants, curves and the gauge problem; valley, mountain and cross country routes; the bridge and tunnel spirals; other considerations affecting alignment; cuttings and embankments, their profiles, methods of construction and maintenance; dredging and excavating machinery; Culverts—data for design, types of culverts and methods of construction. Tunnels; considerations favouring tunnel construction or open cut; shafts for tunnels; form of cross section of tunnels through different rocks; methods of driving headings; methods of timbering or strutting tunnels; methods of opening out or breaking up headings; drainage and ventilation of tunnels, single *versus* double tunnels; tunnel linings; drilling and blastings; tools employed and explosives used; subaqueous tunnels; shield tunnelling, tunnelling between cofferdams, tunnelling under compressed air and tunnelling with precast lengths; brief particulars of important existing tunnels. Permanent-way and track work; ballast, sleepers, rails, rail chairs, joints and fastenings; points and crossings; details of construction; different types of crossings; formulæ and practical rules for setting out; construction and maintenance of track work; creep of rails. Railway bridges; types of bridges; minimum clearances and headroom; waterway for bridges; lay out of track work over-bridges; methods of testing the strength of bridges and of remodelling and strengthening the same. Mechanics of railway traction; compensation for curvature and gradient. Signals, their forms and uses; interlocking, principles and mechanisms—Miscellaneous structures in station yards. Standard dimensions on Indian railways. Rules for preparation of railway projects. Latest advancements in railway engineering.

Note.—The setting out of railway curves is dealt with under surveying. Design of railway bridges and railway structures is dealt with under Structural Engineering.

DOCK AND HARBOUR ENGINEERING.

Physical geography in relation to docks and harbours; natural phenomena, prevalence and intensity of winds, coastal change, accretion and denudation; effect of artificial interference; tidal phenomena; Waves-form, height and length, wave velocity and wave action.

Objects of docks and harbours; considerations affecting choice of site; entrances to docks and harbours; foreshore protection and channel regulation; wet, dry and floating docks; tidal basins and harbours, different forms and types; details and methods of construction. Lock gates, their construction and working;

machinery employed. Different types of quay walls, their construction and maintenance; signals and light houses, ferries and landing piers. Description of important existing docks and harbours. Latest advancements in dock and harbour engineering.

IRRIGATION ENGINEERING.

General.—Importance of irrigation works; productive and protection works; projects. General principles of flow, lift, perennial, basin or inundation, and well irrigation; principal crops; duty, factors affecting duty for crops under storage and direct flow irrigation, duty in Madras systems. Rainfall and Runoff-study of rainfall statistics; utility in run-off calculations; flood discharge and its estimation. Percolation, evaporation and absorption losses in canal and storage systems; uplift and piping; stability of works affected by percolation. Silt-analysis; silting of reservoirs; flow in canals; Kennedy's critical velocity and its applications.

Diversion works.—General description of rivers; river weirs; selection of sites; types on permeable and impermeable soils; weir crest shutters; principles governing the design and construction of river regulators, head regulators, undersluices, flood banks, and protective works. Retrogression of levels.

Storage works.—Selection of site; masonry dams; principles of design of gravity, arch and other types; uplift in masonry dams; drainage galleries; expansion joints; methods of construction. Earthern dams; causes of failure; types of dams; materials for dams, methods of construction, drainage of earthern dams and foundations. Component works—sluices, surplus escapes; ordinary types, stepped waste weirs, syphon spillways; selection of sites. Tanks—isolated and rainfed—single or in groups, supply, capacity. Repairs to bunds and breaches. Flood absorptive capacity of reservoirs; formulæ for design of weirs.

Distribution Systems.—Design and alignment of canals, distributaries, etc., in deltaic and nondeltaic countries; capacity, command, limiting velocity, etc. Drainage, necessity, water logging, alkalinity of soils; drainage, principles in design of drainage channels, outfalls; lining of canals. General description, construction and design of masonry works on canals—(a) for regulation of water level—rapids, falls or drops, notches, escapes, syphon-well drops, sluices—(b) cross drainage works and surplus works—aqueducts, syphon aqueducts, superpassages, level crossings, inlets and outlets—(c) communication works—road dams, fords, etc.

Navigation canals.—Main features; locks, desirability of combining navigation and irrigation.

River Training works.—Spurs, groynes, Bells, bunds, mattresses, aprons, etc.

SANITARY ENGINEERING.

Public Health Legislation.

HYGIENE AND PUBLIC HEALTH.

Bacteriology.—Application to analysis of water and sewage.

Sanitary Engineering.—Scope and objects.

Water-supply.—Importance, ancient and modern water-works, quantity required.

Sources.—Rain, springs, rivers, lakes.

Wells.—Geology, shallow, deep and artesian wells. Construction, yield, quality.

Rivers.—Trenches, infiltration gallery.

Storage reservoirs.—Site, capacity, compensation water, dams, form, design, construction, waste weirs outlet conduits, valve tower.

Conveyance.—Hydraulic gradient, types of aqueducts, syphons, air valves, balancing reservoirs.

Service reservoirs.—Open and closed reservoirs, capacity and construction, water towers, elevated tanks, stand pipes.

Pumps and pumping.—Pumps and suitability, pumping station.

Purification.—Sedimentation, coagulants, effects of storage on purification, infiltration galleries.

Slow filtration.—Filter beds, area, size, arrangement of sand layers, materials and construction, rate of flow, regulation, cleaning, remarks.

Rapid filtration.—Types of filters, rate of filtration, operation of mechanical filters.

Sterilization.—By chlorine, light and electricity.

Softening.—Hardness in water, methods of softening.

Distribution.—Combined and dual systems, intermittent and constant supply, mains and branches, methods of arranging distribution pipes, watering posts, fire hydrants, taps, house fittings.

Waste detection and prevention.—Meters.

SEWERAGE AND SEWAGE DISPOSAL.

Refuse collection and disposal.—Sanitary arrangements in houses, house refuse, sullage, nightsoil, conservancy systems. Collection and removal. Disposal on land. Incinerators, destructors.

Trade effluents.—Their treatment.

Drainage and sewerage.—Rainfall, house drains, surface drains, underground sewers, combined, separate and partially separate systems of sewerage. Measurement of sewage flows, branch and main sewers, design and construction of manholes and sewers, ventilation and cleansing, self-cleansing velocity, excessive and inadequate falls, automatic flushing, lifting of sewage, pumps, ejectors, lifts, intercepting and outfall sewers and their ventilation, storm overflows, outfall into sea.

Sewage disposal.—Character and composition of sewage, disposal on land, board irrigation, intermittent irrigation; sewage sludge, utilization as manure, disposal in the sea.

Bacterial purification.—Contact beds, intermittent sand filtration, precipitation, septic tanks, trickling filters, sludge, disposal of sludge, activated sludge, design of disposal works.

Public utilities.—(Water-works, sewerage and sewage disposal), hospitals, libraries, fire stations, schools, markets, burial and burning-grounds, slaughter-houses, public baths, parks and playgrounds, theatres and cinema halls, etc.

Town planning.—General principles. Healthy and unhealthy areas. Town Planning and Housing Acts and Regulations. Reconstruction.

Engineering contract and specifications.—Law of engineering contracts. Importance of clear and definite writing of contracts and specifications.

Engineering administration.—Details of engineering organization for construction and operation. Study of labour problems, welfare, sanitation and safety.

SURVEYING.

Theodolite.—Universal instrument—Use and adjustments of different types—errors.

Heights and distances.—

Traverse surveying.—Theodolite and chain.

Theodolite and stadia.

Plotting by protractor or by co-ordinates.

Setting out curves.—Simple, compound and transition curves. Tunnels—Earthwork slopes and vertical curves—Curve ranger—Setting out and measuring engineering works.

Triangulation.—Minor triangulation; choice of stations; proportions of sides; adjustment of angles by trial and by method of least squares; Satellite stations; intersected points—Calculation of co-ordinates—Base lines instruments and use—Reduction of measurements.

Tacheometry and Subtense surveying.

Principles—observations and their reductions—plotting by protractor—Tacheometric table and slide rules—Tacheometric plane table—direct reading tacheometer.

Geodesy.—Spherical trigonometry—Convergence of meridians—Setting out parallels of latitude.

Field Astronomy.—*Definitions*—Approximate motions of sun and stars—Astronomical tables. Methods and calculations in determination of true meridian, latitude, longitude and time. Solar attachment.

Photographic Surveying.—

Precise levelling.

Bos sextant.

Other instruments and methods of survey.

Maps and map-making.

Tides and tide reduction.

Hydrographic Surveying.—

Soundings; location of soundings; charting; Cross-sections of streams and rivers; discharge of rivers.

CIVIL ENGINEERING DRAWING AND DESIGN—I.

(a) Designing and detailing important types of buildings, bridges and culverts in plain masonry or timber.

(b) Designing and detailing steel-work for steel-framed buildings, plate and lattice girder bridges (road or railway), tanks and towers.

(c) Designing and detailing reinforced concrete buildings, highway bridges, retaining walls, tanks and towers.

CIVIL ENGINEERING DRAWING AND DESIGN—II.

(a) Designing and detailing important types of irrigation works such as tank sluices, tank surplus weirs, regulators, drops, syphon aqueducts, super-passages, escape locks, etc.

(b) Designing and detailing types of works relating to Sanitary Engineering.

Mechanical Branch.

SYLLABUSES.

Mathematics I and II.

Same as B.E. Civil.

Strength of Materials and Theory of Structures I.

Same as B.E. Civil.

MECHANICAL AND ELECTRICAL.

Theory of Machines.

Kinematics and Pure Mechanism.—Definition of a machine; machine elements and pairs; links; chains and mechanisms.

Constrained motion; translation and rotation; instantaneous centres and centrodes.

Virtual motion in mechanism; velocity and acceleration diagrams.

Altered mechanisms; expansion of elements.

Higher pairing involving plane motion; spur wheel trains; cam trains, etc.

Mechanisms containing non-rigid links; belt-gearing, chain and rope gearing, etc.

Ordinary chains involving screw and spheric motion; worm gearing; universal joints, etc.

Applications of Statics and Kinetics.—Friction of rest and motion; friction of lubricated surfaces; friction in sliding and turning pairs, in pivots and toothed gearing; friction in mechanism and efficiency of machines.

Lubricants, their qualities and properties; tests of lubricating oils; lubricants for different classes of machines, types of lubricator.

Inertia forces in mechanism; balancing; gyrostatic action.

Effort and resistance; steadiness, crank effort, governors and flywheels.

ELECTRO-TECHNOLOGY I AND II.

Same as B.E. (Electrical).

HEAT ENGINES—I.

(a) *Thermodynamical Principles.*—Joule's Law; Carnot's cycle; perfect heat engine; second law; gaseous expansion; pressure-volume and temperature—entropy diagrams; air engines; air compression; internal combustion engines, gas, oil and petrol types and working; features of cycles; proportioning of mixtures; efficiencies, engine testing.

(b) *Refrigerating Plant*—Theory and general arrangement of the common types.

(c) *Automobiles.*—Modern car and engine types; valve systems; carburetters and fuel system auxiliaries; modern electrical ignition systems; clutches and change-speed gearing; universal joints and differentials; lubrication and cooling systems; the chassis and its components; starting and lighting systems.

HEAT ENGINES—II.

Thermodynamics of the generation, expansion and condensation of steam, heat diagrams, etc.

Steam Engines.—Early forms and modern developments: high speed engines; efficiencies of non-condensing; condensing, simple, compound and multiple expansion; stationary and locomotion types; steam jacketing and superheating.

Steam Turbines.—The de Laval turbine, compound impulse turbines, reaction turbines; combined types; effect of high pressure, super-heat and vacuum; governing.

Engine Accessories and Details.—Condensers; air pumps; circulating pumps; cooling tanks, etc.; cylinders; pistons; cross-heads; guides, connecting rods, cranks, flywheels, glands; pipes; governors.

Valves and Valve Gears.—For stationary and locomotive steam engines; D. Slide valve; Meyer's expansion valve; link motions and radial gears; Corliss valves; drop valves and trip gears; valves for internal combustion engines, air compressors and refrigerating machines; diagrams and flywheel calculations.

FUELS, GAS PLANTS AND BOILERS.

Fuels.—Coal, wood, petroleum, gas, petrol, alcohol, etc., physical characteristics; approximate chemical composition; heat of combustion; carbonization of coal and distillation.

Gas Plants.—Gas-producers; pressure and suction plants; arrangement and working.

Boilers.—Ordinary forms of stationary, locomotive; marine; water-tube and other types; natural, forced, induced and mixed

draught; heating surface, fire-grate area; boiler efficiency; economizer, superheaters, feed-water heaters; accessories and management.

HYDRAULIC MACHINERY.

Water Wheels and Turbines—The action of a jet upon vanes, whether at rest or in motion, straight or curved; water wheels; theory design and efficiency; turbines; theory design and efficiency; parallel, outward and inward flow; governing; surge tanks, etc.

Pumps.—Bucket and plunger; pistons, valves; air vessels and stand-pipes; efficiency of pumps Centrifugal and turbine pumps; pulsometer; rams; air-lift pumps; gas pump, etc.

Hydraulic Transmission of Power.—Accumulators, valves and mains; cranes; lifts; riveters, etc.

MACHINE TOOLS AND WORKSHOP PRACTICE.

Cutting of Metals.—Tool steels; shape and preparation of tools; lubrication; speed of cutting and power required.

Machine tools.—Lathes; early forms and modern developments; turret and other lathes adopted for special purposes; screw-cutting tools and chucks; screwing machines; boring and turning mills; milling machines; planing machines; shaping machines; slotting machines; drilling machines; sawing machines; gear-cutting machines; grinding and other miscellaneous machines. Methods of driving and general arrangement of machine tools, shafting; electrically driven machines.

Measurements.—Surface plates; callipers and gauges.

MACHINE DRAWING I AND II.

Machine designs: Preparation of detailed working drawings of machinery and plant from given specification and from students' own design.

Electrical Branch.

SYLLABUSES.

MATHEMATICS I AND II.

STRENGTH OF MATERIALS AND THEORY OF STRUCTURES I.

Same as B.E. (Civil).

THEORY OF MACHINES.

Same as B.E. (Mechanical).

HEAT ENGINES.

Thermodynamical Principles.—Joule's Law; Carnot cycle; perfect heat engines; second law; gaseous expansion; pressure-volume and temperature—entropy diagrams; air engines; air

compression; internal combustion engines; gas; oil and petrol; types and working; features of cycles; proportioning of mixtures; efficiencies; engine testing.

Thermodynamics of the Generation, expansion and condensation of steam; heat diagrams, etc.

Steam Engines.—Early forms and modern developments; high-speed engines; efficiencies of non-condensing; condensing, simple, compound and multiple expansion, stationary and locomotion types; steam jacketing and superheating.

Steam Turbines.—The de Laval turbine; compound impulse turbines; reaction turbines; combined types; effect of high pressure, superheat and vacuum, governing.

Internal Combustion Engines.—Gas, Oil and Petrol.

ELECTRICAL TECHNOLOGY I AND II

(MECHANICAL AND ELECTRICAL).

Electric and magnetic laws, units, standards.

Electric and magnetic properties of materials.

Electric and magnetic circuits.

Electric and magnetic measurements

Measuring instruments and their calibration. Alternating currents including polyphase currents, elementary theory. Continuous and alternating current generators, motors and transformers; simple theory, working and construction. Tests by direct and indirect methods. Transmission and distribution of electric energy; relative efficiencies of various systems; choice of voltage, cables and conductors; general methods of erecting or laying and insulating. Electric lamps and illumination. Primary and secondary cells; elementary theory and testing.

PRINCIPLES OF ELECTRICAL MACHINERY. I AND II.

Theory, details of construction, predetermination of performance, testing and analysis of losses of the following continuous and alternating current generators and motors. Rotary and motor converters. Transformers.

MACHINE DRAWING AND DESIGN.

Design and details of direct and alternating current generators and motors. Drawings of principle components of electrical gear, power and wiring diagrams.

ELECTRICAL MEASUREMENTS AND MEASURING INSTRUMENTS.

Electrical units and standards. Elements of electro static and electro-magnetic theories. Calculation of (1) electro-static capacity of systems of charged conductors, (2) magnetic field strength due to systems of currents, (3) self and mutual inductance of coils. Derivation of the C.G.S., electro-static and electro magnetic units and their dimensions. International units and standards. Absolute measurement of the international ampere and ohm. Standard cells. Standards of luminous flux, candle power and illumination.

Alternating current theory.—Symbolic vector methods and complex quantities and their application to practical cases, i.e., polyphase circuits and alternating current networks. Harmonics and single and polyphase circuits. Eddy current. Losses in conductors. Properties of rotating fields. Simple cases of transient phenomena.

Methods of electrical measurement.—Theory and practice of modern test methods for the measurement of electric and magnetic quantities. Theory of Galvanometers. Ballistic tests: flux meters, electrometers, continuous current and alternating current, potentiometers, standard dynamometer. Wattmeters, and electro-static Wattmeters. The wheat-stone bridge, including precision modifications. Measurements of high and low resistance. Alternating current bridge measurements of effective resistance and reactance. Detectors, including vibration, galvanometers; errors at high frequencies. Frequency measurements, Oscillographs for high and low frequencies. Measurements of magnetic properties of materials. Iron loss measurements by Watt meter and bridge methods. Measurements of dilectric properties. Measurements of luminous flux, candle power and illumination. Electrical methods of measuring temperature.

POWER AND DISTRIBUTION.

Generation, transmission and utilisation of power.

(a) *Generation.*—Choice of site of station; the various determining factors. The choice of prime movers and the choice and arrangement of plant generally. Economics of power generation. Switching and control of generators. Batteries and boosters. Switch gear; direct and remote control systems regulating and protective devices; Instruments; synchronising apparatus. Typical power plants, including hydro-electric schemes.

(b) *Transmission.*—Systems available for the transmission of power by continuous and alternating currents. The applicability of each to various conditions. Cables and aerial lines; laying, jointing and erection.

Economics of power transmission; determination of the most economical system for given conditions: distribution of losses approximate calculations of drop, power, factor, and condi-

tions determining resonance; factors limiting the voltage in practice. Influence of power factor on transmission problems. Interference with communication circuits. Mechanical calculations relating to aerial lines. Systems of distribution; net work calculations. Choice of feeding points; sectionalisation of net works. Sub-stations; necessity for, types available, functions of and arrangement of plant. Switch gear. High and low pressure and for special purposes. Protective systems. Lightning arresters and other safety devices. Localisation of faults.

(c) *Utilisation (excluding electric traction).*—The advantages of electrical systems of transmission and utilisation of energy in industrial work. Selection of motor, continuous or alternating for given services; load equalisation. Speed control and regulation: special arrangement for heavy and variable torques. Automatic and semiautomatic systems. The production and measurement of light. Use of electric energy for illumination. Illumination required in given circumstances. Types of lamp, and fittings available, their choice and arrangement; calculation of illumination from total luminous radiation, effects of reflection. Reflection and absorption; calculation of power required: relative advantages of various systems; systems of charging for electric energy; principles and calculations involved.

APPENDIX XIII.

EXAMINATIONS FOR TITLES IN ORIENTAL LEARNING

SANSKRIT.

Courses of Study.

1935 & 1936.

Compulsory Division—Śirōmaṇi (*Regulation* 6, *Chapter LVII*).

GENERAL PART

Preliminary Examination (6-ii)—

(*a*) Books prescribed—

1. Viśvanāthapañcānana—Muktāvali with Śabdakhaṇḍa-dinakarī
2. Mīmāṃsānyāyāprakāśa—Apōdēva
3. Siddhāntakaumudī—Purvārdha only, omitting Taddhita

(Nirnaya Sagara Press, Bombay).

4. Jaiminīya-nyāya-mālāvistara—from the beginning of the work to the end of pāda I in Chap. III.

(*b*) Books prescribed—

1. Rig Veda—Vedic Reader, I to X hymns (both inclusive), text only by A. A. Macdonell (Oxford University Press).
2. Kaṭhōpaniṣad—text only (Anandasrama Series, Poona).
3. Gautamadharmasūtras—the first praśna-text only (Bibliotheca Sanskrita, Government Press, Mysore) or (Anandasrama Press, Poona).
4. Manu-smṛti—Chapter 9—text only (Gopal Narayan & Co., Bombay).

N.B.—In connection with the History of Sanskrit Language and Literature, for the Final Examination, under the General part, the attention of teachers is invited to the list of books recommended for study and consultation under the corresponding subjects, for Branch vii—B.A. (Honours) Degree Examination.

SPECIAL PART

Regulation 6-iii, *Chapter LVII.*

BRANCH I—*Mīmāmsā Group.*

Preliminary Examination.—

Books prescribed—

1. Taittirīya Samhitā with Sāyaṇa's Bhāṣya (Kāṇḍa I, Prapāṭhaka I).
2. Aitarēya Brāhmana with Sāyaṇā's Bhāṣya, the fourth Pañcikā,
3. Āpastamba's Śrāuta-sūtras with Rudradatta's Vṛtti—Prasnās I to V, both inclusive.
4. Yājñavalkya-smṛti with Mitākṣarā (whole).

(Anandasrama Series, Poona.)

5. Bhāṭṭā-dīpikā—Purvaṣaṭka only (Bibliotheca Sanskrita, Government Press, Mysore or Bibliotheca Indica, Calcutta).

Final Examination—

Books prescribed—

1. Bhāṭṭā-dīpikā—Uttaraṣaṭka only.
2. Śabara-bhāṣya, Chapter I—with Kumārila's Vārtika, Chapter I—omitting Ślōka-Vārtika.
3. Pārthāsārathimisra's Nyāyaratnamālā

} (Chowkhamba Book Depot, Benares).

4. Bhāṭṭārahasya—whole (Sundarsana Press, Conjeevaram).

BRANCH II—*Vēdānta.*

Advaita—Preliminary Examination—

Books prescribed—

Brahmasūtras with Śankara's Bhaṣya (Sri Vani Vilas Press, Srirangam).

Bhamatī—Catussūtri (Nirnaya Sagara Press, Bombay).

Pancapādikā with Vivaraṇa—the first Varṇaka only (Vizianagaram Sanskrit Series, Benares).

Bṛhadāraṇyakōpaniṣad with Śankara's Bhāṣya—Chapters II and III only.
Chāndōgyōpaniṣad with Śankara's Bhāṣya—Adhyāya VI only.
Māṇdūkyōpaniṣad with Gauḍapāda's Kārikās and Śankara Bhaṣya.
Bhagavadgītā with Śankarā's Bhāṣya.

} (Sri Vani Vilas Press, Srirangam).

Advaita—Final Examination—

(*a*) Books prescribed—

Siddhānta-Bindu (the whole)—text only
Advaita-siddhi:
Pariccheda I :—
(i) From the beginning of the work up to the end of Āgamabadhōddhara, (ii) Ajñānavāda, (iii) Anirvacanīyatvavāda and
Paricchēda II:—Akhaṇḍārthavāda.
Laghucandrikā from the beginning of the work up to the end of Upādhi and Akhaṇḍārtha-vāda section.

} (Advaitamanjari Series, Srividya Press, Kumbakonam), or (Nirnaya Sagara Press, Bombay).

(*b*) Books prescribed—

Patañjali's Yōga sūtras with Bhōja-vṛtti.
Īṣvarakṛṣṇa's Sānkhya kārikas with Gauḍapada's Commentary.

} (Chowkhmaba Book Depot, Benares).

Advaita-Paribhāṣā by Dharmarājadhvarin (Venkatesvar Press, Bombay).

Yatīndramatadīpikā by Śrīnivāsācarya (Anandasrama Press, Poona).

Daśaprakaraṇas by Madhvācārya—omitting Karmanirṇaya and Viṣṇutattvanirṇaya—(text only) (Madhva Vilas Book Depôt, Kumbakonam).

Visiṣṭādvaita—Preliminary Examination—

Books prescribed—

Brahmasūtras with Śri Bhāṣya (Ananda Press, Madras).

Śrutaprakāśikā—Jijñāsādhikaraṇa (Nirnaya Sagara Press, Bombay.)

Bhagavadgītā with Rāmānuja's Bhāṣya (Ananda Press, Madras).

Bṛhadāraṇyakōpaniṣad with Raṅgarāmānuja's Bhāṣya (Chakravarti Ayyangar's Telugu Edition, Mysore).

Visiṣṭādvaita—Final Examination—

(*a*) Books prescribed—

Vēdārthasaṃgraha (Pandit, Benares).

Siddhitraya, by Yamunācārya (Chowkhamba Sanskrit Series, Benares).

Śatadūṣaṇī with Caṇḍamāruta—the first fifteen Vādas only (according to the Śāstramuktāvali Edition—Conjeevaram).

Nyāyasiddhāñjana—up to the end of Buddhiparicchēda or the 5th Paricchēda (Pandit, Benares).

(*b*) Books prescribed—Same as under Advaita—Final Examination.

Dvaita—Preliminary Examination—

Books prescribed—

Brahmasūtras with Madhvācārya's Bhāṣya.
Tattvaprakāśikā, by Jayatīrtha.
Gītātātparya-nirṇaya with Jayatīrtha's Ṭīkā.
Madhavabhāṣya on the Bṛhadāraṇyakōpaniṣad.
Madhvācārya's Anuvyākhyāna with Jayatīrtha's Nyāyasudhā —*Jijñāsādhikaraṇa only.*
} (Madhva Vilas Book Depôt, Kumbakonam)

Dvaita—Final Examination—

(*a*) Books prescribed—

Nyāyāmṛta (the first Paricchēda only).
Bhēdōjjīvana, by Vyāsarāya.
Nyāyāmṛtataraṅgiṇī (the first Paricchēda only.)
} (Madhva Vilas Book Depôt, Kumbakonam)

(*b*) Books prescribed—Same as under Advaita—Final Examination (*b*).

BRANCH III—*Nyāya Group.*

Preliminary Examination—

Books prescribed—

Kaṇāda's Vaiśēṣika sūtras—(Text only).

Gautama's Sūtras with Vātsyāyana's Bhāṣya—Chapters I and II—Vizianagram Sanskrit Series (F. J. Lazarus & Co., Benares or Chowkhamba Book Depot, Benares).

Jagadiśa's Pancalakṣaṇī and Simhavyāghrī (Chowkhamba Book Depôt, Benares).

Gadādharā's Caturdaś'alakṣaṇī :

(i) From the beginning of the work up to the end of Dvitīyas-valakṣaṇa.

(ii) Kūṭaghaṭitalakṣaṇa.

(iii) Kūṭāghaṭitalakṣaṇa.

(iv) Vyadhikaraṇa-dharmāvacchinnābhāva-khaṇḍana-grantha (Chowkhamba Book Depôt, Benares).

Gadādharā's Pakṣatā—Sārvabhaumāntam (Chowkhamba Book Depôt, Benares.)

Gadādharā's Siddhāntalakṣaṇam—the whole (Chowkhamba Book Depôt, Benares.)

Final Examination—

Books prescribed—

Udayanācārya's Nyāyakusumāñjali (Chowkhamba Book Depôt, Benares, or Bibliotheca Indica, Calcutta).

Gadādharā's Avayava—from the beginning of the work to the end of Pratijñā.
Gadādharā's Sāmānyanirukti. } (Chakravarti Ayyangar's Telugu Edition, Mysore.)

Gadādharā's Savyabhicārasāmānyalakṣaṇam.
Gadādharā's Satpratipakṣa-vibhājakam.
Khaṇḍadeva's Bhāṭṭarahasyam—to the end of prathamā. } (Sudarsana Press, Conjeevaram.)

Gadādharā's Vyutpattivāda—whole (Nirnaya Sagara Press, Bombay).

Gadādharā's Avacchedakatā-nirukti (Chowkhamba Book Depôt, Benares).

BRANCH IV—*Vyākaraṇa Group.*

Preliminary Examination—

Books prescribed—

Paribhāṣenduśekhara. (Whole)
Prauḍhamanōramā—text from the beginning to the end of Avyayībhāva. } (Chowkhamba Book Depôt, Benares).

Śabdaratna from the beginning to the end of Strīpratyaya.

Final Examination—

Books prescribed—

Gadādhara's Vyutpattivāda—from the beginning to the end of Prathamā.

Laghuśabdenduś'ekhara—upto and excluding Kārakaprakaraṇa (Chowkhamba Book Depôt, Benares).

Mahābhāṣyam—Navāhnikam from the beginning (Nirnaya Sagara Press, Bombay).

Vaiyākaraṇa-bhūṣaṇa-sāra—All the sections except the Subartha-vicāra and the Nāmārtha-vicara.

Laghumañjūṣā, by Nageśa—only the sections containing the Subartha-vicāra and the Nāmārtha-vicāra.

BRANCH V—*Sāhitya Group.*

For Sāhitya-Siromani and Vidvān-Sanskrit, when offered as one of the two languages for the Vidvān Title under Regulation 3-(a) and (6) in Chapter LVII.

Preliminary Examination—

Books prescribed—

Bāṇa's Kādambari—the portion from the Mahāśvetāvṛttānta to the end of Pûrvabhāga only (Bombay Sanskrit Series).

Śrīharṣa's Naiṣadha cantos 10 and 11.

Kumārasambhava, Cantos 1 to 5 both inclusive. } (Nirnaya Sagara Press Bombay).

Śākuntala.
Mālatīmādhava.
Mṛcchakaṭika.
Mudrārākṣasa. } (Gopal Narayan & Co., Bombay).

Nilakanṭhavijaya by Nilakanṭha Dīkṣita, Ucchvāsa III only. (Balamanorama Press, Mylapore).

Daṇḍin's Kāvyādarśa.

Siddhānta-Kaumudī—Pûrvārdha to the end of Apatyādhikāra.

Final Examination—

For Sāhitya-Siromani and Vidvān-Sanskrit, when offered as one of the languages under Regulations 3-a and 6, Chapter LVII.

Books prescribed—

Siddhānta Kaumudī—Uttarārdha omitting Uṇādi, Vaidika and Svara Prakaraṇas.

Vararuci's Prākṛta-Prakāś'a (Chowkhamba Book Depôt, Benares.)

Vṛttaratnākara, Chapters 1 to 4.

Vāmana's Kāvyālankāra Sūtravṛtti.

For Sāhitya Siromani only, See Ch. LVII, Regulation 6, Branch V Final (b) :

Mammaṭa's Kāvyaprakāśa (Bombay Sanskrit Series).

Dhvanyālōka (Kāvyamālā Series, Bombay).

Udbhaṭa's Kāvyālānkārasāra with Pratihārenduraja's vṛtti. (Nirnaya Sagara Press, Bombay).

Citramīmāṃsā (Kāvyamālā Series, Bombay).

Rasagaṅgādhara, by Jagannātha, from the beginning to the end of Rûpaka.

VIDVAN TITLE EXAMINATIONS.

For Sanskrit when offered as the subsidiary language for the Vidvan Title under Regulation 3-c, in Ch. LVII.

For the Preliminary Examination—

Kālidāsa's Kumārasambhava—Cantos I to V.
Kādambarī Samgraha Pūrvabhāga (whole), by R. V. Krishnamachariyar, Government College, Kumbakonam.

For the Final Examination—

Śākuntala by Kālidāsa (whole).

BRANCH VI

Jyotṣa Group.

Preliminary Examination—

1. Bhāskarācārya's Bījagaṇita—complete.
2. *Bhāskarācārya's Līlāvatī—whole omitting Parikarmāṣṭaka, Kuṭṭaka and Pāśa.
3. Rēkhāgaṇita by Jagannātha—Books II and III.

(Items 1–3: To be had of Nirnaya Sāgara Press, Bombay, or Punjab Sanskrit Book Depot, Lahore.)

4. Trikōṇamiti—To be had of Lazarus & Co., Benares.
5. Capīyatrikoṇamiti and Golarekhāgaṇita only in the Golaprakāśa. The portions prescribed in the Golaprakāśa are available at the Chowkhamba Book Depot, Benares, and the Venkateswara Press, Bombay.

Final Examination—

1. Siddānta-Śirōmaṇi (whole).
2. Sūryasiddhānta (whole).
3. Āryabhaṭīya (whole).
4. Bṛhat-Samhitā (whole).
5. Bṛhajjātaka (whole).
6. Muhūrtacintāmaṇi (whole).

(Items 1–6: To be had of Lazarus & Co., Benares, or Chowkhamba Book-Depôt, Benares, or Punjab Sanskrit Book Depôt, Lahore, or Anandasrama Press, Poona, or Oriental Books Supplying Agency, 15, Sukrawarpet, Poona.)

7. Grahalāghava—from the beginning of the work to the end of *Candragrahaṇādhikāra*—Venkateswara Press, Bombay.
8. Praśnamārga—Pūrvārdha only.

BRANCH VII

Ayurveda Group

Preliminary Examination—

1. Aṣṭāṅgahṛdaya-Śārīra-Nidāna-cikitsā sthānāni. (To be had of Anandasrama Press, Poona, or of Nirnaya Sagara Press, Bombay).
2. Carakasaṃhitā—Sūtrasthāna only—Nirnaya Sagara Press, Bombay.
3. Suśruta-Saṃhitā—Sūtra and Śārīra only—Nirnaya Sagara Press, Bombay.
4. Rasaratnasamuccaya—The first eleven Chapters—To be had of the Proprietor, Venkateswar Press, Bombay.
5. Pratyakṣa-Śārīra—by Mahāmahopādhyāya Gananath Sen, M.A., L. M., & S., Calcutta.

*With reference to "*Lilavati*" attention is invited to the Edition of this work recently brought out by Pandit V. Venkatarama Sastri, Vedānta Patasala, Nallur, *via* Sundaraperumal Koil, Tanjore District, (to be had of the Editor).

Final Examination—

1. Carakasaṃhitā (whole)—omitting Sūtrasthāna.
2. Sus'rutasaṃhitā (whole)—omitting Sūtra and Śārīra.
3. Mādhavanidāna (whole)—To be had of Anandasrama Press, Poona, or the Nirnaya Sagara Press, Bombay.
4. Aṣṭāṅgahṛdaya (Kalpa and Uttara).
5. Rasaratnasamuccaya—Chap. 12 to the end.
6. Rasahṛdaya of Govindapāda—To be had of Nirnaya Sagara Press, Bombay.
7. Siddhānta Nidāna by Mahāmahopādhyāya Gaṇanath Sen, M.A., L.M. & S., Calcutta.

SANSKRIT AND MARATHI

1935.

TEXT-BOOKS

Regulation 7-A—Sanskrit and Marathi as Co-ordinate languages.

For the Preliminary Examination—

Poetry—

(1) Krishna Vijaya (Purvárdha), first 15 Chapters, edited by R. D. Parádkar.

(2) Nalopakhyán by Raghunáth Pandit.

(3) Harichandrákhyan by Mukteshwar.

(4) Mrichhakatik by Parashurám Pant Godbole.

(5) Námsudhá by Wáman Pandit, edited by B. A. Bhide, B.A.

Prose—

(1) Jivit-Kartavya athavà Samsàr-Kartavya by D. N. Nàbar, B.A., LL.B.

(2) Moropantàvaril Nibandha by V. K. Chiplunkar, B.A.

N. B.—All the above books can be had from Messrs. Parachure Puranick & Co., Madhava Bagh, Bombay, or New Kitab Khana, Poona City.

For the Final Examination—

Grammar, Prosody and Poetics :—

(1) Vritta Darpana by Parashurám Pant Godbole.

(2) Arthálankár by V. V. Bhide, B.A.

(3) Marathi Bhashechi Ghatana by R. B. Joshi.

(4) Sulabhálankara by R. B. Joshi.

(5) Marathi Bhasheniteel Vàkprachár ani Mhani by V. V. Bhide, B.A.

N.B.—All the above books can be had from Chitrashàlà Press, Poona (City).

Regulation 7-B —Marathi (Main) and Sanskrit (Subsidiary.)

Preliminary—

Poetry—

(1) Krishna Vijaya (Purvàrdha), first 15 Chapters, edited by R. D. Paràdkar.

(2) Venisamhir Nàtak by Parashuràm Pant Godbole.

(3) Nàmsudha by Wàman Pandit, edited by B.A. Bhide, B. A.

(4) Mukteshwar : Vana Parva, Chapters 6, 7 and 8 (pages 105—232). Nirnayasagar Edition.

Prose.—

(1) Sukha ani Shanti by Modak, first 10 Chapters.

(2) Shivchhatrapati's life by Sabhàsada.

(3) Essays on Marathi Grammar by Krishna Shastri Chiplunkar.

(4) Proudha Bodha Vyàkarana by R. B. Joshi.

Final—

Grammar, Prosody and Poetics :—

(1) Alankàr Darpana by R. V. Talekar.

(2) Arthàlankar by V. V. Bhide, B.A.

(3) Marathi Bhashechi Ghatana by R. B. Joshi.

(4) Marathi Bhashenteel Vákprachár ani Mhani by V. V. Bhide, B.A.

(5) Vritta Darpana by Parashuràm Pant Godbole.

(6) Kekàvali by Moropant.

(7) Ishagunàdarsha by Dr. G. K. Garde.

(8) Nala Damayanti Akhyàn by Raghunàth Pandit.

N. B.—All the above books can be had from New Kitab Khana, Poona City, or Messrs. Parachure Puranick & Co., Madhava Bàgh, Bombay.

ORIYA

Oriya as a Co-ordinate Language with Sanskrit.

1935

For the Preliminary Examination—

Pranāyinī by Nīlakanṭha Das. Bhāgavata, by Jagannath Das (8th Skandha Vaman carita). Rasakallōla (Cantos 13, 32, 33 & 34), by Deenakṛṣna Das Mamu, by Phakirmohan Senapati. Prabandhamāla, by Madhusūdan Rao Ratnākar Campu, by Balabhadra Kavisūrya. Radhanath-granthavalee (Chilka, Durbar, Usha and Vivekī).	Trading Company, Cuttack.

For the Final Examination—

Alankār Bōdhōdāya, by V. S. Deb.	Trading Company, Cuttack.
Alankār Sāra, by S. Deb (only Chandaprakarana)	
Vyākarana Pravēsa, by Radhanath Rai.	
Utkal Sāhityara Etihasa, by Tarinicaran Ratho.	
Sāralā Carita, by Mṛtyunjaya Rath.	
Prabandhāvalee (pp. 1 to 154), by Syāmasundar Raja Guru.	

Oriya as the main language with Sanskrit as a Subsidiary language Regulations 2 and 3—Vidvan (b)

PRELIMINARY EXAMINATION.

Poetry—

1. Rajadharma—Sāntiparva—Krishnasimha Mahābharata.
2. Sree Mukunda Dev, by Chintamani Mahānty.
3. Koteebrahmānda Sundaree (cantos 1—10), by Upendrabhanja
4. Pranayini, by Nilakantha Das.
5. Rasakallola, by Deenakrishna Das.
6. Kishore Chandrananda Champu (Oriya portion only), by Baladev Kavisurya.
7. Ratnakara Champu, by Kavisurya.
8. Bhāgavata (Vāman Charita only), by Jagannath Das.

Prose—

1. History of Orissa, by Kṛpasindhu Misra.
2. Sea Voyage of Orissa in the Past—Birupaksha Kar, B.L.
3. Bay Mahanti Panjee, by Gopalachandra Praharaj.
4. Mamu by Phakirmohan Senāpati.
5. Itihasaprasanga, by Chintamani Acharya
6. Viveki, by Radhanath Roy.

Drama—

1. Uttararama Charita by Madhusudan Rao.
2. Prakrutapranaya Natak, by Sree Rādhā Mohan Rajendra Dev.
3. Kalapahara, by Asvinikumar Ghosh.

Grammar—

1. Sukhabodha Vyakarana, by Mrutyunjaya Rath.
2. Vyakarana Sopan, by Chandromohan Maharana.

3. Oriya Vyakarana, by an experienced teacher.

N.B.—All the above books can be had from the Trading Company, Cuttack, or from the Students' Stores, Berhampur (Ganjam District).

FINAL EXAMINATION

Poetry—

1. Sundarakanda—Ramayana—by K. Patnaik.
2. Moksha Dharma—Santiparva—Krushnasimha Mahabharata.
3. Adyatma Ramayan by Suryamoni Chyau Patnaik.
4. Baideheeshavilasa (cantos 1—25), by Upendra Bhanja.
5. Bidagdha Chintamoni (cantos 1—35) by Abhimanyu samanta Simhar.
6. Pravandha Purnachandra by "Yadumoni."

Grammar—

1. Vyākaraṇa Pravesh, by Radhanath Roy.
2. Oriya Vyakarana, by Madhusudan Das.

Prosody and Poetics—

1. Alankar Bodhodaya by V. S. Deb.
2. Alankar Sara by S. Deb. (Chandaprakarana).
3. Prabhandhavallee (pages 1 to 154) by Syamasundar Rajaguru.

History of Language and Literature—

The following books are recommended:—

1. Sarala Charita, by Mrutyunjaya Rath.
2. Utkala Sahityara Itihasa, by Tarini Charana Rath.
3. Beams: Comparative Grammar of the Gaurian Languages.
4. Wilson: Philological lectures on Sanskrit and the Derived Languages.
5. Gray: Indo-Iranian Phonology.
6. Bhasatatwa; by Gopinath Nandu Sarma.
7. Prachina Utkal by Jagabandhu Simh.

N.B.—All the above books except Nos. 3. 4 and 5 under History of Language and Literature can be had from the Trading Company, Cuttack. or from the Students' Stores, Berhampur, (Ganjam District); books No. 3. 4 and 5 can be had from the Oriental Books Supplying Agency, 15, Shukrawar Peth, Poona City.

TAMIL.

1935.

VIDVAN.

Vidvan under Regulations 7-A and C.

Preliminary—

Poetry—

Chilappathikaram—Pukarkandam—except 3rd Chapter.
சிலப்பதிகாரம் – புகார்காண்டம் - (மூன்றாவது அத்தியாயம் நீங்கலாக)

Palamoli—1—50 by T. Chelvakesavaroya Mudaliyar, M.A.
பழமொழி-1-50

*Naladiyar.
நாலடியார்

Thevaram—Appar 1—100. IV.
தேவாரம்–அப்பர்-1-100-IV

Nalayirapirabantham—1, Iyalpamuthalanthathi—100 stanzas.
நாலாயிரப் பிரபந்தம்

Thiruvenkadakkalambagam.
திருவேங்கடக் கலம்பகம்

Prose—

Mathivanan—V. G. Suryanarayana Sastriar, B.A.
மதிவாணன்

Panchathanthiram—5th—Edited by S. Anavaratavinayakam Pillai, M.A., L.T
பஞ்சதந்திரம்-5-வது

Essay on Kambar by T. Chelvakesavaroya Mudaliyar, M.A.
கம்பர்

Grammar—

Nannul—Viruthiyurai.
நன்னூல் விருத்தியுரை

Akapporulvilakkam.
அகப்பொருள் விளக்கம்

Ilakkanavilakkam—Pattiyal.
இலக்கண விளக்கம்–பாட்டியல்

Final—

Poetry—

Pathuppattu—Thirumurukatrupadai and Pattinappalai.
பத்துப்பாட்டு—திருமுருகாற்றுப்படையும் பட்டினப்பாலையும்
Purananuru—51—100.
புறநானூறு 51-100
Cheevakachintamani—Pathumaiyarilambakam (246 Stanzas).
சீவகசிந்தாமணி—பதுமையாரிலம்பகம்
Tirukkural—Arathupal.
திருக்குறள்—அறத்துப்பால்

Grammar—

Tholkappiyam—Solladikaram, Ilampuranam.
தொல்காப்பியம்—சொல்லதிகாரம்—இளம்பூரணம்
Yapparunkalakkarikai.
யாப்பருங்கலக்காரிகை பழையஉரை
Purapporulvenbamalai—1—9 Padalams.
புறப்பொருள் வெண்பாமாலை—1-9 படலங்கள்
Dandiyalankaram.
தண்டியலங்காரம்

Vidvan under Regulation 7-B.

Preliminary—

Poetry—

Thiruvengadattandadi.
திருவேங்கடத்தந்தாதி
Maduraikalambakam.
மதுரைக்கலம்பகம்
Sekkilar Pillaitamil.
சேக்கிழார் பிள்ளைத்தமிழ்
Kalaisaichiledai Venba—1—50.
கலைசைச்சிலேடை வெண்பா 1-50
Chidambaracheyyutkovai.
சிதம்பரச்செய்யுட்கோவை
Tanjaivanankovai.
தஞ்சைவாணன் கோவை
Villiputhurar Bharatham—6—10 Parvams.
வில்லிபுத்தூரர் பாரதம்-6-10 பருவங்கள்
Paranjoti Thiruvilaiyadal, II Kandam.
பரஞ்சோதி திருவிளையாடல், காண்டம் II
Pirabulingaleelai—1 to 304 stanzas.
பிரபுலிங்கலீலை-1-304 பாட்டுக்கள்

Thakkayagapparani—Kalikku Kulikuriyathu.
தக்கயாகப்பரணி-காளிக்குக் கூளி கூறியது
Thirukkural—Arathupal—Parimelalagar.
திருக்குறள்-அறத்துப்பால்-பரிமேலழகர்

Prose:—

Tamil Varalaru, 2 Parts, by Rao Bahadur K. Srinivasa Pillai.
தமிழ் வரலாறு
Tolkappiya Porulathikara Araychi by M. Raghava Ayyangar.
தொல்காப்பியப் பொருளதிகார ஆராய்ச்சி
Essay on Kambar by T. Chelvakesavaroya Mudaliyar, M.A.
கம்பர்
Cholavamsa Charitram by Gopinatha Rao, M.A.
சோழவம்ச சரிதம்
Virada Parvam by M. V. Ramanujachari.
விராட பருவம்

Grammar—

Tolkappiyam—Eluthathikaram—Ilampuranam.
தொல்காப்பியம்-எழுத்ததிகாரம்-இளம்பூரணம்
Nannul—Eluthathikaram, Sankaranamachivayar.
நன்னூல்-எழுத்ததிகாரம்-சங்கர நமச்சிவாயர்
Akapporulvilakkam.
அகப்பொருள் விளக்கம்
Purapporul Venba Malai.
புறப்பொருள் வெண்பாமாலை
Dandiyalankaram.
தண்டியலங்காரம்
Yapparunkalakkarikai.
யாப்பருங்கலக்காரிகை பழையவுரை
Chidambarappattiyal.
சிதம்பரப்பாட்டியல்

Final—

Poetry—

Purananuru—1—150.
புறநானூறு 1-150
Akananuru—Kalitriyanai Nirai.
அகநானூறு-களிற்றியானை நிரை
Kalithogai—Mullaikkali.
கலித்தொகை-முல்லைக்கலி
Pathupattu—Maduraikanchi.
பத்துப்பாட்டு-மதுரைக்காஞ்சி

Paripadal 1—10.
பரிபாடல் 1-10

Pathitruppathu—2—6.
பதிற்றுப்பத்து 2-6 பத்துக்கள்

Thirukkural—Porutpal.
திருக்குறள்—பொருட்பால்

Chilappathikaram—Maduraikandam.
சிலப்பதிகாரம்—மதுரைக்காண்டம்

Perunkathai—Lavanakandam.
பெருங்கதை—இலாவாணகாண்டம்

Appar Thevaram—IV Thirumurai.
அப்பர் தேவாரம்—IV திருமுறை

Thiruvaimoli.
திருவாய்மொழி

Kambaramayanam—Ayodhyakandam.
கம்பராமாயணம்—அயோத்தியாகாண்டம்

Periyapuranam—Thirunavukkarasar.
பெரியபுராணம்—திருநாவுக்கரசர்

Kandapuranam, Vol. I, 3rd Kandam.
கந்தபுராணம்—Vol. I, 3-வது காண்டம்

Grammar—

Tholkappiyam—Chol, Senavarayam.
தொல்காப்பியம்—சொல்-சேனாவரையம்

Nannul Viruthi—Chol.
நன்னூல் விருத்தி—சொல்

Porulathikaram—Akam, Puram, Porul, Meippadu, Nachinarkkiniyam and Perasiriyam.
பொருளதிகாரம்—அகம், புறம், பொருள், மெய்ப்பாடு—நச்சினார்க்கினியமும் பேராசிரியமும்.

Yapparunkalaviruthi.
யாப்பருங்கலவிருத்தி

Maranalankaram.
மாறனலங்காரம்—பொருளணி

Venbappattiyal.
வெண்பாப்பாட்டியல்.

History of Language and Literature—

The following books are recommended:—

Caldwell's Comparative Grammar, Introduction.

Grierson's Linguistic Survey, Volume IV.

History of the Tamil Language, by V. G. Suryanarayana Sastri.

Essay on Tamil, by T. Chelvakesavaraya Mudaliar.

Primer of Tamil Literature, by M. S. Purnalingam Pillai.

Tamil Pulavar Caritam, by A. Kumaraswami Pulavar, Chunnakam, Jaffna.

Tholkappiyachollathikarakurippu.

Vidvan under Regulation 7-D.

Preliminary and Final—

The same as for 7-B—Preliminary and Final, with the following additions:—

Preliminary—

History of Tamil Country—

The question paper on the History of the Tamil country may be set on the information available from the set books prescribed under Prose for the Examination with the following as books of reference:—

History of Tamil by G. V. Doraiswami Pillai, published by the Association Press, Calcutta, available with the Oxford University Press, Madras.

Kadaivallalar Kalam by Rao Bahadur Dr. S. Krishnaswami Ayyangar, published by the Madura Tamil Sangam.

Karikal Cholan or Cholan Karikalan I, published by Pandit Olaganatha Pillai of Tanjore; (May be obtained from the Proprietor, Viveka Bodhini Office, Mylapore, Madras).

Seran Senguttuvun by Pandit M. Raghava Ayyangar.

Pallavas, by P. T. Srinivasa Ayyangar, (2 parts).

History of the Cholas, by T. A. Gopinatha Rao, published by the Madura Tamil Sangham, Madura.

Final.—

Prose—

Inscriptions.

கல்வெட்டுக்கள்.

TELUGU.

1935.

Telugu when offered as one of the languages under Regulation (A) and (C).

For the Preliminary Examination.

Poetry (Old):—

1. Bharatamu — Nannaya — Adiparvamu, 8th Canto, Tikkana—Virataparvamu, 1st Canto.
2. Manucharitramu, (Canto II).
3. Parijatapaharanamu (1st Canto whole) with Parimalollasa Vyakhya by N. Kuppuswamiah Garu. (Copies available with the Andhra Patrika Press, G. T., Madras.)
4. Neelasundariparinayamu (1st Canto).

Poetry (Modern):—

Kumarasambhavamu—The whole. By Adipudi Somanatha Rao—Copies available with the author, near Barber's Bridge, Madras.

Prose:—

Dwadasopanishattulu published by Messrs. Vavilla Ramaswami Sastrulu & Sons, Madras—one to four Upanishads.

Saradavijayamu by Mrs. Satyanadhan, Madras—Srinivasavaradachary & Co., Mount Road, Madras.

Drama:—

Venisamharamu by Vaddadi Subbarayudu Garu (Copies available with the Author, near Government Training College, Rajahmundry.)

Grammar, Prosody and Poetics:—

Balavyakaranamu.

Kavijanasrayamu.

Andhrachandralokamu, by Adidamu Sooranna.

Andhrasabda Chintamani with Balasaraswatiyamu (together with introduction). Copies available with Messrs. Vavilla Ramaswami Sastrulu & Sons, Madras.

For the Final Examination.

Poetry (Old):—

1. **Bharatamu—Tikkana, Udyogaparvamu, Canto II.**
2. Uttaraharivamsamu—Nachana Somanadhudu, Canto II.
3. Sringaranaishadhamu—Sreenadha, Canto II.
4. Prabhavati Pradyumnamu—Pingali Soorana, Canto II.
5. Bhartrihari — Enugu Lakshmanakavi — Vairagya Satakamu.

Poetry (Modern):—

Salivahana Gadhasaptasati by Rallapalli Anantakrishna Sarma, Telugu Pandit, Maharaiah's College, Mysore, (Available at Sadhana Book Depot, Anantapur).

Drama:—

Malavikagnimitramu by Vedam Venkataraya Sastrulu.

Grammar, Prosody and Poetics—

Proudha Vyakaranamu.

Andhrasabdachintamani—Commentary by P. Rama Sastri. (Available at the Andhra Patrika Press), and with Balasaraswathiyamu, as edited by V. Ch. Sitarama Sastry (at Vavilla & Sons, Madras.)

Appakaviyamu, canto iii.

Narasabhupaleeyamu.

Chintamani Vishaya Parisodhana by V. Chinnaseetharama Sastrulu. (Messrs. Vavilla Ramaswami Sastrulu & Sons, Madras).

Kalidasuni Kalapratibhalu by K. Ramakrishnayya, Limbdi Gardens, Royapettah, Madras.

Philology—

Dravidian Languages by Vidwan G. J. Somayaji, M.A., L.T., (Ananda Press, Madras).

History of Language and Literature—

Andhra Vangmayacharitrasangrahamu. (Vavilla & Sons, Madras.

Telugu when offered as the Main Language under Regulation 7 B

For the Preliminary Examination.

Poetry (Old):—

Bharatamu—Tikkana—Santiparvamu, (Canto III).

Kumarasambhavamu—Nannechoda (Canto II). (S. V. V. Press, Vizianagaram).

Raghavapandaviyamu, (Canto IV).

Vasucharitramu, (Canto IV).

Atcha Telugu Ramayanamu—Kishkindhakandamu.

Poetry (Modern):—

Meghaduta by Deepala Picchayya Sastrulu. (Copies available with Manager, Kalanidhi Office, Nellore).

Prose:—

Vikramarka Charitamu by Bh. Ramamurti Sastrulu. (Copies available with Messrs. Vavilla Ramaswami Sastrulu & Sons, Madras.)

Drama:—

Ascharya Chudamani by Mr. M. V. Sarma, Telugu Pandit, Maharaja's College, Vizianagram.

Grammar, Prosody and Poetics—

Balavyakaranamu.

Proudhavyakaranamu.

Tatsama Chandrika by Sannidhanam Suryanarayana Sastri, Mahaboob College, Hyderabad. (Available at the Author).

Kavyalankarachudamani (whole) by Vinnakota Peddanna. (Text only is prescribed).

For the Final Examination.

Poetry:—

1. Bharatamu—Anusasanika Parvamu, Canto II.
2. Harischandra Nalopakhyanamu, Canto II.
3. Bhagavatamu by Pothana—1st Skandham. Parikshat Charitamu, Verses 383 to 527.
4. Vijayavilasamu, Cantos I and II.
5. Yayaticharitamu, 1st Aswasamu.

Prose:—

Dasakumaracharitamu by Yenamachintala Sanjeevaraya Sastry. (Available with V. Ramaswami Sastrulu & Sons, Madras.)

Non-Detailed:—(Drama)—

Maruti Vijayamu by J. Subba Rao, Sub-Registrar's Office, Bucchireddipalayam, Nellore District.

Grammar, Prosody and Poetics—

1. Andhrasabdachintamani.
2. Atharvanakarikavali.
3. Appakaviyamu (except Cantos II and V).
4. Narasabhupaliyamu.
5. Dasarupakamu—By M. Suryanarayana Sastri, Cantos III and IV.
6. Chintamani Vishaya Parisodhanamu by V. Chinna Sitarama Sastrulu.

History of Language and Literature—

Dravidian Languages by Vidwan G. J. Somayaji, M.A., L.T., (Available with the author).

Bhashothpatthikramamu by K. Ramakrishnayya, Limbdi Gardens, Royapettah, Madras.

Andhra Bharata Kavita Vimarsanamu by K. Ramakrishnayya, Senior Lecturer in Telugu, University of Madras.

Andhravangmayacharitra Sangrahamu (Vavilla & Sons, Madras.)

KANARESE.

1935.

Vidvan under Regulations 7-A and C.

Preliminary:—

Poetry and Prose:—

(1) Vikramarjuna Vijaya by Pampa, Chapters IX and X, Kannada Academy Edn. (Viswakarnataka Publishing House, Fort, Bangalore).

(2) Jagannatha Vijaya by Rudra Bhatta, (Government Oriental Library Edn.). Chapters 1, 2 and 3. (Viswakarnataka Publishing House, Fort, Bangalore).

(3) Rajasekhara Vilasa by Shadaksharadeva, Chapters 1 and 2. (Viswakarnataka Publishing House, Fort, Bangalore).

(4) Anantanathapurana by Janna, Chapters 11, 12 and 13 (Government Oriental Library, Mysore).

(5) Mitravinda Govinda Nataka by Singararya. (Kavyakalanidhi Office, Mysore).

(6) Chickadevaraja Vamsavali by Tirumalarya. (Kavyakalanidhi Office, Mysore).

(7) Mudra Manjusha by Kempu Narayana. (Wesleyan Mission Press, Mysore).

***Final*:—**

Grammar, Prosody and Poetics.—

(1) Kavirajamarga by Nripatunga.	Madras University Publications — Copies available at C. Coomaraswami Naidu & Sons, G. T., Madras.
(2) Rasaratnakara by Salva.	

(3) Sabdamanidarpana by Kesiraja. (B. M. Book Depot, Mangalore).

(4) Chhandassu by Nagavarma. (B. M. Book Depot, Mangalore).

(5) Apratima Vira Charite by Tirumalarya. (Kavyakalanidhi Office, Mysore).

(6) Karnataka Vyakaranopanyasamanjari by R. Raghunatha Rao. (Viswakarnataka Publishing House, Fort, Bangalore).

(7) Muddana, (Viswakarnataka Publishing House, Fort, Bangalore).

(8) Karnataka Kavicharite by R. Narasimhacharya, Vols. I, II, and III. (Author, Malleswaram, Bangalore).

Vidvan under Regulation 7-B.

***Preliminary*—**

Poetry and Prose:—

(1) Bharatesha Vaibhava, Part I, Sandhis 1, 2 and 3 with introduction (available with Mr. U. Mangesha Rao, Asst. Master, Board High School, Puttur, S. Kanara).

(2) Sri Rama Pattabhisheka by Mahalakshmi, (Kavyakalanidhi Office, Mysore).

(3) Chickadevaraya Vijaya by Tirumalarya, (Kavyakalanidhi Office, Mysore).

(4) Vatsaraja Kathe (Kavyakalanidhi Office, Mysore).

(5) Damayanti Swayamvara by Basappa Sastri, (Pandit B. Mahadeva Sastry, Kerlapur P. O., Hassan Dt.).

(6) Chavundaraya Puranam by Chavundaraya, (Visvakarnataka Publishing House, Fort, Bangalore).

(7) Mricchakatika Prakarana by N. Subba Sastri (M. S. Rao & Co., Bangalore City).

Grammar.—

Sabdamani Darpana by Kesiraja, (B. M. Book Depot, Mangalore).

Final—

General Literature—

(1) Adipurana by Pampa, Chapters 1, 2 and 3, (Government Oriental Library, Mysore).

(2) Jagannatha Vijaya by Rudra Bhatta, Chapters 4, 5 and 6, (Government Oriental Library, Mysore).

(3) Girijakalyana by Hariharadeva, Chapters 1 to 4 (both inclusive), (Kavyakalanidhi Office, Mysore).

(4) Neminatha Purana by Nemichandra, Chapters 1, 2 and 3, (Kavyakalanidhi Office, Mysore).

(5) Mitravinda Govinda Nataka by Singararya, (Kavya kalanidhi Office, Mysore).

(6) Ramaswamedha by Muddana, (Kavyakalanidhi Office, Mysore).

(7) Tapobala by A. N. Narasimhayya, (Viswakarnataka Publishing House, Fort, Bangalore).

(8) Bhakti Bhandari Basavannanavaru by Srinivasamurthi (Satya Shodhana Book Depot, Fort, Bangalore).

Grammar, Prosody and Rhetoric, etc.—

(1) Sabdanusasana by Bhattakalanka, (Omitting the Commentary), (Government Oriental Library, Mysore).

(2) Kavirajamarga by Nripatunga,
(3) Rasaratnakara by Salva,
} Madras University Publications — Copies available at C. Coomaraswami Naidu & Sons, G. T., Madras.

(4) Apratima Vira Charite by Tirumalarya, (Kavyakalanidhi Office, Mysore).

(5) Chhandombudhi by Nagavarma, (Kavyakalanidhi Office, Mysore).

(6) Karnataka Vyakaranopanyasamanjari by R. Raghunatha Rao, (Viswakarnataka Publishing House, Fort, Bangalore).

(7) Ranna Kavi Prasasthi, (Viswakarnataka Publishing House, Fort, Bangalore).

(8) Karnataka Kavi Charite by R. Narasimhacharya, Vols. I, II and III. (Author, Malleswaram, Bangalore).

TITLE EXAMINATION, 1935.

MALAYALAM.

1935.

Vidvan under Regulations 7 (A) and (C).

Preliminary.—

1. Kaṇnassa Ramāyanam—Sundara Kāndam—Edited by Ulloor S. Parameswara Ayyar, M.A., B.L., (B.V. Book Depot, Trivandrum).
2. Bharatam—Udyōgam. Ezuthachan. (Any Press).
3. Pingala—By Ulloor S. Parameswara Ayyar, M.A., B.L., Trivandrum.
4. Chitrayōgam—2nd and 3rd Cantos—By Vallothole—(Mangalodayam Press, Trichur).
5. Ambarisha Charitam—Kathakali.

Drama.—

1. Uthara Rama Charitam by C. Chathu Kutty Mannadiar, (Mangalodayam Press, Trichur).
2. Pratimanatakam—By K. Keṣavan Nair, Maharaja's College, Ernakulam.

Prose.—

1. Bhasa Nātaka Chakra Charcha—By E. V. Raman Namboodiri, Curator's Office, Thycaud, Trivandrum.
2. Sāhityamanjushika—by Vatakkankoor Raja Raja Varma, Curator's Office, Thycaud, Trivandrum.
3. Durandadussanka—By K. Kumara Pillai, B.A., L.T., N. S. S. High School, Karuvatta, Travancore.

Final:—

1. Leelathilakam—Attur Krishna Pisharoti, Trichur.

2. Kērala Panineeyam, by A. R. Raja Raja Varma, M.A., (B. V. Book Depot, Trivandrum).

3. Bhasha Bhāshanam, by A. R. Raja Raja Varma, M.A. (B. V. Book Depot, Trivandrum).

4. Vrithamanjari, by A. R. Raja Raja Varma, M.A., (B. V. Book Depot, Trivandrum).

5. Sahityācharitam, by Attur Krishna Pisharoti, Trichur.

6. Malayāla Bhāshayum Sahityavum by Attur Krishna Pisharoti, (University Lectures, University of Madras.)

7. Drāvida Vrithangal, etc., by Appan Thampuran, Ayyanthole Palace, Trichur.

8. Sahityasāram by Nantyār Veetil K. Paramesvaran Pillai, M.A., Trivandrum.

9. Mandanamanjari by D. Padmanabhanunni, M.A., Union Christian College, Alwaye.

10. Kerala Kaumudi—T. M. Kovunni Nedungadi, (T. M. Kovunni Nedungadi, Teacher, Zemorin' College, Chalapuram, Calicut).

VIDVAN UNDER REGULATION 7 (B).

Preliminary.

1. Leelathilakam—Edited by Attur Krishna Pisharoti, Trichur.

2. Kerala Kaumudi—By T. M. Kovunni Nedungadi, (T. M. Kovunni Nedungadi, Teacher, Zamorin's College, Chalapuram, Calicut).

Drama.—

1. Manipravala Sakuntalam—By Kerala Varma. (B. V. Book Depot, Trivandrum).

2. Swapna Vasavadatham—By Vallathole. (A. R. P. Press, Kunnamkulam, Cochin State).

Poetry.—

1. Krishnagātha—Kamsa Sadgathi.

2. Bharatam, Salyam and Santhi Parvams.

3. Unnu Neeli Sandēsam—Edited by Attur Krishna Pisharoti, Trichur.

4. Kirmeera Vadham—Kathakali edited by P. Krishnan Nayar, (Siromani), Limbdi Gardens, Royapettah, Madras.

Prose.—

1. Bhasa Nātaka Chakra Charcha—By E. V. Raman Namboodri, Curator's Office, Trivandrum.

2. Sahityamanjushika—By Vatakkankoor Raja Raja Varma, Curator's Office, Trivandrum.

3. Vignana Deepika—By Ullur S. Parameswara Ayyar, M.A., B.L., Trivandrum.

4. Durandadussanka—By K. Kumara Pillai, B.A., L.T., N. S. S. High School, Karuvatta, Travancore.

Final.

Grammar, Rhetoric and Literature, etc.—

1. Kerala Panineeyam,
2. Bhasha Bhushanam,
3. Vrithamanjari

} A. R. Raja Raja Varma, B. V. Book Depot, Trivandrum.

4. **Mandanamanjari by D. Padmanabhanunni, B.A., Union** Christian College, Alwaye.

5. **Keralasahityacharitam Vols. I and II by** R. Narayana Panikkar, B.A., L.T., Trivandrum.

6. **Sahityacharitra Samgraham by P. Sankaran Nambiyar,** M.A. (Saraswathivilasam Book Depot, Trichur).

7. **Nātaka Pravēsika by A. D. Harisarma, (Deepam Office,** Ernakulam).

8. Bhashayum Sahityavum by Attur Krishna Pisharoti, (University Lectures, University of Madras).

9. Sahityacharitam, Part I, by Attur **Krishna Pisharoti,** (S. R. Book Depot, Trivandrum).

10. **Sahityasāram by Nantyār Veetil K. Paramesvaran Pillai,** M.A., Trivandrum.

11. Dravida Vrithangal, etc., by Appan Thampuran, Ayyanthole Palace, Trichur.

12. **Thunchath Ezhuthachan by P. K. Narayana Pillai, B.A.,** B.L., Trivandrum.

13. Nirūpanasāhityam—By Matathil Kuryan Katnanar, S. B. College, Chenganacherry.

14. Novelsāhityam—By M. P. Paul.

Poetry.—

1. **Ramacharitam—1 to 9 Patalams.**

2. Kuchela Vritham and Krishnavilasam—Edited by C. Achyuta Menon, B.A., **Limbdi Gardens, Royapettah,** Madras. (University Publication—Copies available at C. Coomaraswami Naidu & Sons, G. T., Madras).

3. **Ramayanachampu—Volume I, Trivandrum Malayalam Series, Government Press, Trivandrum.**

4. **Vijayodayam by Pantalam Kerala Varma—(S. R. Book Depot, Trivandrum).**

5. Janaki Parinayam (Drama)—By C. Chathukutty Mannadiar—(Mangalodayam Press, Trichur).

6. Ascharya **Chūdāmani—By Kunhi Kuttan Thampuran—(B. V. Book Depot, Trivandrum).**

7. Kalakēya Vadham—Kathakali—Kottayath Thampuran **(Edited by P. Krishnan Nair—Sri Ramakrishnodayam** Press, Olavacode, S. Malabar).

8. Kuchela Vritham—Vanchipattu—By Ramapurath Varier, **(Any Press).**

AFZAL-UL-ULAMA TITLE EXAMINATION.

1935.

Preliminary.—

Tafsir Muhammad Abduh—Volume II.

Al-Mizan by Sha'rani—Vol. I.

Jami'ut Tirmidhi—First half.

Risalatut Tawhid by Abduh.

Qasidatul Burdah.

Mu'-allaqat by Tarafa and Zuhayr.

Al-Fakhari.

Maqmat-i-Badi'i—1st 14 Maqamahs.

Usul-ush-Shashi.

Tahzibul-Mantiq.

For those who do not offer Urdu Translation.—

Kalilah-wa-Dimna.

Final.—

Tafsirul—Jawahir—Vol. I.

Sahi-hul Bukhari—1st five Ajza.

Muqaddima-i-Ibn-i-Salah.

Bidayathul Mujtahid by Ibn Rushd—1st Vol.

Nurul-Anwar-Sunnah, Ijma' and Qiyas.

Maqamat-i-Hariri—First ten Maqamahs.

Nasimul Kalam, (available at Messrs. Jafari Bros., Anvar-i-Ahmad Press, Allahabad).

Tarikhu-Adabil Lughatil-Arabiyyah by Jurji Zydan—1st Volume.

Banat Su'ad.

Diwan-i-Mutanabbi—Radif Alif and Ba.

Al-Hamasa-Babul Hamasa-wal Marathi.

Tarikhu Umamil Islamiyyah by Alkhizari—Volume II.

Majmu'ul Adab Fi Funnil Arab by Al-yazij.

For those who do not offer Urdu Translation:—

Fatat-i-Ghassan.

MUNSHI-I-FAZIL TITLE EXAMINATION

1935.

Preliminary.—

Mazamin-i-Sharar—Vol. II—Part I. Geographical and Historical Essays.

Ibnul Waqt.

Musaddas-i-Hali.

Kulliyathi Akbar—Part II.

Sarmaya-i-Danish by Ja'fari.

Qissa-i-Haji Babah—1st half.

Mard-i-Khasis.

Masnavi Maulana Rum—1st half Daftar.

Lisanul Ghayb by Ja'fari.

Asas-i-Arabi. (Copies available at Kitabistan, Baily Road, Allahabad).

Final.—

Hayathi Jawid, Part II.

Muwazana-i- Anis-wo Dabir.

Bangi Dira by Iqbal.

Intikhabi Qasaid-i-Zauq, by Shah Sulayman, (or the ordinary edition of Qasaidi Zauq which goes by the name of Majmoo-i-Intikhabi Qasaid Zauq published by Mubarak Ali).

Siyahat Nameh Ibrahim Beg, 1st Volume.

Intikhabi Siyarul Muta'akhirn—From Baber to Shahjehan.

Payami-Mashriq, by Iqbal.

Qasa-i-di Qa'ani-Alif and Ba.

Shi'rul Ajam, Parts II and V.

Khizinatul Fawa'id, Part II.

Majani-ul Adab, Volume I.

Note:—The above books are available at the Islamiah Book Depot, Kurnool.

Examinations for Titles in Oriental Learning, 1936

SANSKRIT.

1936.

The same as for 1935, for all branches.

MARATHI.

1936

The same as for 1935.

ORIYA.

1936

VIDVAN UNDER REGULATION 7-A.

For the Preliminary Examination.—

1. Ratnakar Champu by Baladeva Kavisurya.
2. Mamu by Fakir Mohan Senapati.
3. Radhanath Granthavali (Chilika, Durbar, Usha and Viveki).
4. Kotibramhanda Sundari (Cantos 4 to 10) by Upendra Bhanja.
5. Aryajeevana by Nilakantha Das.
6. Pravandha Prakasa by Ratnakar Pati.
7. Sveta Dvipaveena by Ajoychandra Das.

For the Final Examination.—

1. Alankar Chandrika by Ananta Tripathi Siromani.
2. Alankara Tarangini by Kulamoni Misra.
3. Alankar Sara (Chanda Prakarana) by S. Deo.
4. Prandhavali—Pages 1 to 45 by S. Rajguru.
5. Sukhavodha Vyakarana by M. Rath.
6. Vyakarana Pravesa by Radhanath Rai.
7. Utkal Sahitya ra Itihasa by Vinayaka Misra

VIDVAN UNDER REGULATION 7-B.

The same as for 1935.

TAMIL.

1936

VIDVAN UNDER REGULATIONS 7-A AND C.

The same as for 1935, with the following alterations:—

Instead of Appar Thevaram—1—100 Pathigams, *substitute* **Appar Thevaram—1—25 Pathigams.**

Instead of Iyal Pa Muthal Anthathi, *substitute* **Perumal Tirumoli.**

In Naladiyar, Arattuppal alone is prescribed. (Not the whole book).

Philology.—

The same as for 1935, (i.e.).—

Dravidian Languages by Vidvan G. J. Somayaji, M.A., L.T., (Ananda Press, Madras).

History of Language and Literature.—

The same as for 1935, (i.e.).—

Andhra Vangmayacharitra Sangrahamu (Vavilla & Sons, Madras).

VIDVAN UNDER REGULATION 7-B.

Preliminary.

Old Poetry.—

The same as for 1935, (i.e.).—

Bharatamu—Tikkana—Santiparvamu, Canto III.

Kumarasambhavamu—Nannechoda, Canto II. (S. V. V. Press, Vizianagaram).

Raghavapandaviyamu, Canto IV.

Vasucharitramu, Canto IV.

Atcha Telugu Ramayanamu—Kishkindhakandamu.

Modern Poetry.—

1. Sugunamani by Vidvan Viswanadha Narasimham, B.A., Chengalraopet, Vizagapatam.
2. Suklapakshamu by Ananthapantula Ramalingayya, Parvatipuram. (Available with A. Satyanarayana, Parvatipuram).

Prose.—

1. Raghuvamsa Kathanamu by Bandaru Thammayya, Amalapuram.
2. Damayanti by Ramakrishna Kavulu, Pithapuram. (Copies available with Vavilla & Sons, Madras).

Drama.—

Valmiki by K. Gopala Rau Garu, 4, Acharappan Lane, G. T., Madras.

Grammar, Prosody and Poetics.—

Balavyakaranamu.

Proudhavyakaranamu.

Tatsama Chandrika by Sannidhanam Suryanarayana Sastri, Mahaboob College, Hyderabad. (Available with the Author).

Kavyalankarachudamani by Vinnakota Peddanna. (Text only is prescribed).

Laghusiddhantakaumudi in Telugu by Ch. Suryanarayana Sastri and P. V. Narasimhacharyulu—Sandhi and Samasa Prakaranams only. (Copies available with Vavilla & Sons, Madras).

Final.

Old Poetry.—

The same as for 1935, (i.e.).—

1. Bharatamu—Anusasanika Parvamu, Canto II.
2. Harischandra Nalopakyanamu, Canto II.
3. Bhagavatamu by Pothana—1st Skandham. Parikshat Charitamu, Verses 383 to 527.
4. Vijayavilasamu, Cantos I and II.
5. Yayaticharitamu, 1st Aswasamu.

Modern Poetry.—

1. Sree Jeevayatra, Canto III, by Srimati Vidvan K. Kanakamma Garu, Queen Mary's College, Madras.
2. Nirvachana Bharathagarbha Ramayanamu by Ravipati Lakshminarayana Garu, Gurjala, Guntur district.

Prose.—

1. Sandhi and Vigrahamu by K. Veerasalingam Pantulu.
2. Vimarsatarangini by Nadakuduti Veeraraju, Pithapuram.
3. Kavyanataka Vimarsanamu by Avvari Subrahmanya Sastri Garu.

Drama.—

Abhignana Sakuntalamu by Srimati Vidvan K. Kanakamma Garu, Queen Mary's College, Madras.

Grammar, Prosody and Poetics.—

The same as for 1935, (i.e.).—

1. Andhra Sabdachintamani.
2. Atharvana Karikavali.
3. Appakaviyamu (except Cantos II and V).
4. Narasabhupaliyamu.
5. Dasarupakamu, by M. Suryanarayana Sastri, Cantos III and IV.
6. Chintamani Vishaya Parisodhanamu by V. Chinna Sitarama Sastrulu.

History of Language and Literature.—

The same as for 1935, (i.e.).—

1. Andhra Vangmaya Charitra Sangrahamu. (Vavilla & Sons, Madras).

2. Andhra Bharata Kavita Vimarsanamu by K. Ramakrishnayya, Senior Lecturer, Limbdi Gardens, Royapettah, Madras.

KANARESE.

1936

VIDVAN UNDER REGULATIONS 7-A AND C.

Preliminary.

General Literature:—

1. Vikramarjuna Vijaya by Pampa. Chapters 9 and 10. (Karnataka Sahitya Parishat Office, Chamarajpet, Bangalore).

2. Jagannatha Vijaya by Rudra Bhatta, Chapters 1, 2 and 3. (Government Oriental Library, Mysore).

3. Rajasekhara Vilasa by Shadakshara Deva. Chapters 1 and 2. (Satya Shodhana Book Depot, Bangalore).

4. Pushpadanta Purana by Gunavarma. Chapters 1, 2 and 3. (Madras University Publication—Copies available at C. Coomaraswami Naidu & Sons, G. T., Madras).

5. Mitravinda Govinda Nataka by Singararya, (Kavya Kalanidhi Office, Mysore).

6. Chikkadevaraja Vamsavali by Tirumalarya, (Kavya Kalanidhi Office, Mysore).

7. Mudra Manjusha by Kempu Narayana. (Wesleyan Mission Press, Mysore).

Final.

Grammar, Prosody and Poetics:—

The same as for 1935, and also Kannada Jaina Vangmaya by R. Tatachar. (Saraswati Printing Works, Mangalore).

VIDVAN UNDER REGULATION 7-B.

Preliminary.

General Literature:—

1. Nemi Jinesa Sangati by Mangarasa. Chapters 1 and 2. Edited by Santiraja Sastri. (Vardhamana Power Press, Mysore).
2. Sobagina Balli by M. Thimmappayya. (The Author, St. Aloysius' College, Mangalore).
3. Neeti Manjari, Part II by R. Narasimhachar, Stanzas 1 to 100. (The Author, Malleswaram, Bangalore).
4. Bhava Chintaratna by Mallanarya. } Kavya Kalanidhi Office, Mysore.
5. Uttara Rama Charitra Natakada Kathe. } Kavya Kalanidhi Office, Mysore.
6. Damayanti Swayamvara by Basappa Sastri, (Pandit B. Mahadeva Sastry, Kerlapur P. O., Hassan Dt.).
7. Mricchakatika Nataka by N. Subba Sastri. } Satya Shodhana Book Depot, Fort, Bangalore.
8. English Geethagalu by B. M. Srikantiah. } Satya Shodhana Book Depot, Fort, Bangalore.
9. Bharata by Kumara Vyasa, Udyoga Parva, Sandhis 1—5, (both inclusive). } Satya Shodhana Book Depot, Fort, Bangalore.

Grammar:—

Sabdamanidarpana by Kesiraja. (B. M. Book Depot, Mangalore).

Final.

General Literature:—

1. Adi Purana by Pampa. Chapters 5 and 6. (Government Oriental Library, Mysore).
2. Jagannatha Vijaya by Rudra Bhatta, Chapters 7 and 8 (Government Oriental Library, Mysore).
3. Girija Kalyana by Harihara Deva, Chapters 7 and 8. } (Karnataka Kavya Kalanidhi Office, Mysore).
4. Neminatha Purana by Nemichandra, Chapters 1, 2 and 3. } (Karnataka Kavya Kalanidhi Office, Mysore).
5. Ramaswamedha by Muddana. } (Karnataka Kavya Kalanidhi Office, Mysore).
6. Sabara Sankara Vilasa by Shadakshara Deva. Chapters 1 and 2. (Satya Shodhana Book Depot, Fort, Bangalore).

7. **Pushpadanta Purana by Gunavarma. Chapters 4 and** 5. (Madras University Publication—Copies available at C. Coomaraswami Naidu & Sons, G. T., Madras.)

8. **Swapnavasavadatta** by M. D. Alasingarachar. (Karnataka Book Depot, No. 7, Car Street, Triplicane, **Madras**).

9. Mandodari by C. K. Venkataramayya. (Karnataka Publishing House, Bangalore).

10. Hindusthanada Prachina Rajya Paddhatigalu by V. H. Vodeyar. (Navajivan Book Depot, Dharwar).

Grammar, Prosody, and Poetics:—

The same as for 1935, and also Kannada Jaina Vangmaya by R. Tatachar. (Saraswati Printing Works, Mangalore).

MALAYALAM.

1936

VIDVAN UNDER REGULATIONS 7-A AND C.

Preliminary.

Poetry.—

1. Kannassa Ramayanam—Sundarakandam Edited by Ullur S. Parameswara Ayyar, M.A., B.L., (B. V. Book Depot, Trivandrum).

2. Bharatam—Bheeshma Parvam—by Ezuthachan (any press).

3. Chitrayōgam—Fourth and Fifth Surgams—by Vallathole Narayana Menon, (Kalamandalam Office, Mulakunnattukavu, Cochin State).

4. Pingala by Ullur S. Parameswara Ayyar, M.A., B.L., Trivandrum.

5. Kalakēya Vadham—Kathakali—Kottayath Thampuran. Edited by P. Krishnan Nair, (Siromani), Limbdi Gardens, Royapettah, Madras.

Drama.—

The same as for 1935.

Prose.—

1. Bhasa Nataka Chakra Charcha—by E. V. Raman Nambudiri, Curator's Office, Taicaud, Trivandrum.

2. **Ayēsha—by K. Raman Nambiar, Guruvayoor, Chowghat.**

3. **Meevadinde** Pathanam—by Atiyattu Krishna **Menon, Trichur.**

Final.

The same as for 1935.

VIDVAN UNDER REGULATION 7-B.

Preliminary.

1. The same as for 1935, with the addition of Purva Peetika in Kerala Panineeyam by A. R. Raja Raja Varma, M.A., (B. V. Book Depot, Trivandrum).

Drama.—

The same as for 1935.

Poetry.—

1. Krishnagatha—Subadhraharanam by Cherusseri (any press).
2. Bharatam—Bheeshmaparvam by Ezuthachan (any press).
3. Uthara Rama Charitam—Kilipattu by Attur Krishna Pisharoti, Trichur.
4. Unnu Neeli Sandesham—Edited by Attur Krishna Pisharoti, Trichur.
5. Kirmeera Vadham—Kathakali—Edited by P. Krishnan Nair, (Siromani), Limbdi Gardens, Royapettah, Madras.

Prose.—

1. Bhāsanātaka Chakra Charcha—by E. V. Raman Nambudiri, Curator's Office, Trivandrum.
2. Sāhitymajushika by Vadakankur Raja Raja Varma, Curator's Office, Trivandrum.
3. Ayēsha by K. Raman Nambiar, Guruvayoor, Chowghat.
4. Meevadinde Pathanam by Atiyattu Krishna Menon, Trichur.

Final.

Grammar, Rhetoric, Literature, etc.—

The same as for 1935, with the following changes:—

1. *Substitute* Keralacharitram by Attur Krishna Pisharoti, Trichur, *for* Nirūpana Sahityam.
2. *Substitute* Khandakatha Prasthanam by M. P. Paul, Trichur, *for* Novel Sahityam.

Poetry.—

1. Rama Charitam—1 to 9 Patalams (University edition).
2. Ramayana Champu—Vol 1, Trivandrum Malayalam Series, Government Press, Trivandrum.
3. Vijayodayam by Pantalam Kerala Varma. (S. R. Book Depot, Trivandrum).
4. Janaki Parinayam (Drama) by C. Chathukutty Mannadiar, (Mangalodayam Press, Trichur).
5. Prabhōdha Chandrodayam (Drama) by Kumaran Asan, (Mrs. Kumaran Asan, Thonnakkal, near Trivandrum).
6. Nalacharitam—Attakatha 1st day. Edition by R. Narayana Panikkar, B.A., L.T., (S. T. Reddiar & Sons, Quilon).
7. Tulasidamam by K. K. Rajah, C/o. Kairally, Trichur.
8. Kuchelavritham—Vanchipattu by Ramapurath Varier, (any press).

Munshi-i- Fazil Examination, 1936.

Preliminary.—

Mazamini-Hali.

Ibnul Waqt.

Musaddasi—Hali.

Kulliyath-i-Akbar, Part III.

Sarmaya-i-Danish by Ja'fari.

Qissa-i-Haji Baba, 1st half.

Mardi Khasis.

Lisanul Ghayb by Ja'fari.

Mathnavi Maulana Rumi, 1st Half Dafter.

At Tariqatul Mubtakirah, Part IV.

Final.—

Hayath-i-Jawid, Part II.

Yadgari Ghalib.

Bangi Dira.

Intikhabi Kalami Mir by Abdul Haq.

Nathrah.

Siyahat Nameh Ibrahim Beg, 1st Volume.

Shir'a.

Payami Mashriq.

Qasa'id-i Qa'ani Alif and Ba, Edited by Ja'fari.

Shi'rul Ajam, Part V.

Tarikhi Adabiyathi Iran.

Sukhandani-Fars, Part II.

Majaniul Adab, Vol. I.

Afzal-ul-Ulama Examination, 1936.

Preliminary.—

The same as for 1935, with the exception that Sharh-i-wiqayab, 1st half should be substituted for Al-mizan by Sh'arani, Vol. I.

Final.—

The same as for 1935, with the exception that Tafsir Ruhul Ma'ani, Vols. I and II should be substituted for Tafsir-al-Jawahir, Vol. I.

Note:—All the above books are available at the Islamiah Book Depot, Kurnool.

Examinations for Titles in Oriental Learning, 1937.

SANSKRIT.

1937

For all the branches of the Siromani course and for Sanskrit under the Vidvān groups—the same as for 1936.

MARATHI, 1937.

REGULATION 7-A—SANSKRIT AND MARATHI AS CO-ORDINATE LANGUAGES.

For the Preliminary Examination.—

Poetry.—

1. Krishna Vijaya (Purvardha), first 10 Chapters, Edited by R. D. Paradkar.

2. Nalopakhyan by Raghunath Pandit.
3. Harishchandrakhyan by Mukteshwar.
4. Marathi Saroopa Shakuntala by B. L. Antarkar.

Prose.—

1. Pratibha Sadhan by Phadke, M.A.
2. Hindu Dharma and Sudharana by M. S. Gole, M.A.
3. Vichar Vilas by V. M. Joshi, M.A., pages 1—139.

For the Final Examination.—

Grammar, Prosody and Poetics.—

1. Vritta Darpana by Parashuram Pant Godabole.
2. Arthalankar by V. V. Bhide, B.A.
3. Marathi Bhashechi Ghatana by R. B. Joshi.
4. Marathi Bhasheche Vakprachar, Mhani, etc., by V. V. Bhide, B.A.
5. Rasaprabodha by B. K. Makode.

N.B.—All the above books can be had at Messrs. Parachure Puranick & Co., 'Madhav Bagh', Bombay.

REGULATION 7-B—MARATHI (MAIN) AND SANSKRIT (SUBSIDIARY.).

Preliminary.—

Poetry.—

1. Krishna Vijaya (Uttarardha) by Moropant, Adhyayas 80—85 (both inclusive).
2. Uttar Ramacharitra by Parashurampant Tatya Godabole.
3. Hari Vilas by Waman Pandit, Edited by B.A., Bhide, B.A.

Prose.—

1. Sukha ani Shanti by M. H. Modak, Chapters 1—10.
2. Lives of Sambhaji Maharaja and Rajaram Maharaja by M. R. Chitnis.
3. Yashavant Rao Khare by H. N. Apate.

Final.—

Grammar, Prosody and Poetics.—

1. Alankar Darpana by R. V. Talekar.
2. Arthalankar by V. V. Bhide, B.A.
3. Marathi Bhashechi Ghatana by R. B. Joshi.

4. Marathi Bhasheche Vakprachar, Mhani, etc., by V. V. Bhide, B.A.
5. Vritta Darpana by Parashuram Pant Godabole.
6. Kekavali by Moropant.
7. Keshava Sitachya Kavita.
8. Rev. Tilaka's Poems.

N.B. -All the above books can be had at Messrs. Parachure Puranick & Co., 'Madhav Bagh', Bombay.

ORIYA, 1937.

VIDVAN UNDER REGULATION 7-A.

For the Preliminary Examination.—

1. Mahajatra by Radhanath Roy.
2. Rasakollala by Deena Krushna Das.
3. Aryajeevan by Nilakantha Das.
4. Mamu by Phakir Mohan Senapati.
5. Kisore Chendrananda Champu by Kavi Surya.
6. Sweta dwipa Beena by Ajayachendra Das.
7. Prakruta Pranaya Natak by R. R. Deo.

For the Final Examination.—

The same as for 1936, (i.e.).—

1. Alankar Chandrika by Ananta Tripathi Siromani.
2. Alankara Tarangini by Kulamoni Misra.
3. Alankar Sar (Chanda Prakarana) by S. Deo.
4. Prandhavali—Pages 1 to 45 by S. Rajguru.
5. Sukhavodha Vyakarana by M. Rath.
6. Vyakarana Pravesa by Radhanath Rai.
7. Utkal Sahitya ra Itihasa by Vinayaka Misra.

VIDVAN UNDER REGULATION 7-B.

Preliminary Examination.—

The same as for 1936, (i.e.).—

Poetry.—

1. Rajadharma—Santiparva—Krishnasimha Mahabharata.
2. Sree Mukunda Dev, by Chintamani Mahanty.

3. Koteebrahmanda Sundaree (cantos 1—10), by Upendrabhanja.
4. Pranayini, by Nilakantha Das.
5. Rasakallola, by Deenakrishna Das.
6. Kishore Chandrananda Champu (Oriya portion only), by Baladev Kavisurya.
7. Ratnakara Champu, by Kavisurya.
8. Bhagavata (Vaman Charita only), by Jagannath Das.

Prose.—

1. History of Orissa, by Krpasindhu Misra.
2. Sea Voyage of Orissa in the Past—Birupaksha Kar, B.L.
3. Bayi Mahanti Panjee, by Gopalachandra Praharaj.
4. Mamu by Phakirmohan Senapati.
5. Itihasaprasanga, by Chintamani Acharya.
6. Viveki, by Radhanath Roy.

Drama.—

1. Uttararama Charita by Madhusudan Rao.
2. Prakrutapranaya Natak, by Sree Radha Mohan Rajendra Dev.
3. Kalapahara, by Asvinikumar Ghosh.

Grammar.—

1. Sukhabodha Vyakarana, by Mrutyunjaya Rath.
2. Vyakarana Sopan, by Chandromohan Maharana.
3. Oriya Vyakarana, by an experienced Teacher.

N.B.—All the above books can be had from the Trading Company, Cuttack, or from the Students' Stores, Berhampur, (Ganjam district).

Final Examination.—

The same as for 1936, (i.e.).—

Poetry.—

1. Sundarakanda—Ramayana—by K. Patnaik.
2. Moksha Dharma — Santiparva — Krushnasimha Mahabharata.
3. Adyatma Ramayan by Suryamoni Chyau Patnaik.

4. Baideheeshavilasa (Cantos 1—25), by Upendra Bhanja.
5. Bidagdha Chintamoni (Cantos 1—35) by Abhimanyu samanta Simhar.
6. Pravandha Purnachandra by "Yadumoni".

Grammar.—

1. Vyakarana Pravesh, by Radhanath Roy.
2. Oriya Vyakarana, by Madhusudan Das.

Prosody and Poetics.—

1. Alankar Bodhodaya by V. S. Deb.
2. Alankar Sara by S. Deo, (Chandaprakarana).
3. Prabhandhavallee (pages 1 to 154) by Syamasundar Rajaguru.

History of Language and Literature.—

The following books are recommended.—

1. Sarala Charita, by Mrutyunjaya Rath.
2. Utkala Sahityara Itihasa, by Tarini Charana Rath.
3. Beams: Comparative Grammar of the Gaurian Languages.
4. Wilson: Philological lectures on Sanskrit and the Derived Languages.
5. Gray: Indo-Iranian Phonology.
6. Bhasatatwa by Gopinath Nandu Sarma.
7. Prachina Utkal by Jagabandhu Simh.

N.B.—All the above books except Nos. 3, 4 and 5 under History of Language and Literature can be had from the Trading Company, Cuttack or from the Students' Stores, Berhampur, (Ganjam district); books Nos. 3, 4 and 5 can be had from the Oriental Books Supplying Agency, 15, Shukrawar Peth, Poona City.

TAMIL, 1937.

VIDVAN UNDER REGULATIONS 7-A AND 7-C.

***Preliminary.*—**

***Poetry.*—**

Cilappadikaram, Pukarkandam, omitting Arangerrukadai.

Palamoli—Ed. by T. Chelvakesavaraya Mudaliyar, Stanzas 1—50.

Naladiyar.

Tevaram, Tirumurai IV of Appar—Stanzas 1—100.

Nalayiraprabandham, Iyarpamudaltiruvantadi, 100 Stanzas.

Tiruvenkatakkalambakam.

Prose.—

Mativanan by V. G. Suryanarayana Sastriyar.

Panchatantram—Ed. by S. Anavaratavinayakam Pillai, 5th tantram.

Essay on Kambar by T. Chelvakesavaraya Mudaliyar.

Grammar.—

Nannul Viruttiyurai.

Akapporulvilakkam.

Ilakkanavilakkam, Pattiyal.

Final.—

Poetry.—

Pattuppattu, Tirumurukatrupadai and Pattinappalai.

Purananuru, Stanzas 51—100.

Jivakacintamani, Padumaiyarilambakam.

Tirukkural, Arattuppal.

Grammar.—

Tolkappiyam, Colladikaram, Ilampuranam.

Yapparunkalakkarikai.

Purapporulvenbamalai, Padalams 1—9.

Dandiyalankaram.

VIDVAN UNDER REGULATION 7-B.

***Preliminary.*—**

***Poetry.*—**

Tiruvenkatattantadi.

Maduraikkalambakam.

Sekkilar-pillaittamil.

Kalasaicchiledaivenba, Stanzas 1—50.

Tiruvalangal-tirattu by Pamban Kumaragurudasa Swamigal, Part II, (Murugavel Book Depot, Royapettah, Madras).

Tanjaivanankovai.

Villiputturar Bharatam, Parvams 6—10.

Paranjotimunivar Tiruvilaiyadal, Kudal Kandam.

Pirabulingalilai, Gatis 1—5.

Takkayagapparani, Kalikku-Kuli-Kuriyadu.

Tirukkural, Arattuppal, with Parimelalagar Urai.

Tamilviduduto—Ed. by Mahamahopadhyaya V. Swaminatha Ayyar.

Prose.—

Tolkappiya-Poruladikara-arayechi by M. Raghava Ayyangar.

Essay on Kambar by T Chelvakesavaraya Mudaliyar.

Virataparvam by M. V. Ramanujacharya.

Grammar.—

Tolkappiyam, Eluttadikaram, Ilampuranam.

Nannul, Colladikaram, Sankaranamacchivayar Urai.

Akapporulvilakkam.

Purapporulvenbamalai.

Yapparunkalakkarikai.

Dandiyalankaram.

Chidambarappatiyal.

Final.—

Poetry.—

Purananuru, Stanzas 1—150.

Akananuru, Kalitryanainirai.

Kalittokai, Mullaikkali.

Pattupattu, Maduraikkanji.

Paripadal, Stanzas 1—10.

Paditruppattu, Pattu 2—6.

Tirukkural, Porutpal, Chapters 64—108.

Cilappadikaram, Maduraikkandam.

Manimekalai, Kadai 1—10.

Perunkadai, Lavanakandam.

Tevaram, Tirumurai IV of Appar.

Tiruvaymoli.

Kambaramayanam, Ayodhya Kandam.

Periyapuranam, Tirunavukkarasunayanarpuranam.

Kandapuranam, Dakshakandam.

Advanced Grammar, Prosody and Poetics.—

Tolkappiyam, Colladikaram, Senavaraiyam.

Nannul Virutti, Colladikaram.

Ilakkanakkottu, Vinaiyiyal.

Tolkappiyam, Poruladikaram, Akam, Puram, Porul, with Nacchinarkkiniyar Urai and Meyppadu with Perasiriyar Urai

Kalaviyarkarigai—Ed. by S. Vaiyapuri Pillai, Editor, Tamil Lexicon, Madras.

Yapparunkalavirutti.

Maranalankaram, Porulaniyiyal.

Venbappattiyal.

VIDVAN UNDER REGULATION 7-D.

The same as under Regulation 7-B with the following additions:—

Preliminary.—

History of Tamil Country.—

The following books are recommended:—

Kadaivallalar-Kalam by Dr. S. Krishnaswami Ayyangar (Madura Tamil Sangam).

Karikal Cholan I, by Pandit L. Olaganatha Pillai, (Alliance Co., Mylapore).

Ceran-Cenguttuvan by Pandit M. Raghava Ayyangar, Tamil Lexicon Office, Madras.

Pallavas by P. T. Srinivasa Ayyangar.

Colavamsacarittiracurukkam by T. A. Gopinatha Rao.

Periplus, tr. by S. Somasundara Desikar, Tamil Lexicon Office, Madras.

Chronology of the Early Tamils by K. N. Sivaraja Pillai, (Madras University Publication—C. Coomaraswami Naidu & Sons, G. T., Madras.)

Final.—

History of Language and Literature.—

The following books are recommended:—

Caldwell: A Comparative Grammar of the Dravidian Languages, Introduction.

Grierson: Linguistic Survey, Vol. IV, Dravidian Languages.

History of the Tamil Language by V. G. Suryanarayana Sastriyar.

Essay on Tamil by T. Chelvakesavaraya Mudaliyar.

History of Tamil Literature by M. S. Purnalingam Pillai.

Tamil Pulavar Carittiram by Chunnakam A. Kumaraswami Pillai.

Tamil Ilakkiya Varalaru by K. Subrahmanya Pillai, Tinnevelly Town.

Inscriptions.—

University B.A. Selections in Tamil, Vol. II, Tamil Inscriptions, 1—20.

TELUGU, 1937.

The same as for 1936.

KANARESE, 1937.

Vidvan under Regulations 7-A and C.

***Preliminary.*—**

The same as for 1936. (i.e.).—

General Literature.—

1. Vikramarjuna Vijaya by Pampa. Chapters 9 and 10. (Karnataka Sahitya Parishat Office, Chamarajpet, Bangalore).
2. Jagannatha Vijaya by Rudra Bhatta. Chapters 1, 2 and 3. (Government Oriental Library, Mysore).
3. Rajasekhara Vilasa by Shadakshara Deva. Chapters 1 and 2. (Satya Shodhana Book Depot. Bangalore).
4. Pushpadanta Purana by Gunavarma. Chapters 1, 2 and 3. (Madras University Publication).
5. Mitravinda Govinda Nataka by Singararya. (Kavya Kalanidhi Office, Mysore).
6. Chikkadevaraja Vamsavali by Tirumalarya. (Kavyakalanidhi Office, Mysore).
7. Mudra Manjusha by Kempu Narayana. (Wesleyan Mission Press, Mysore).

Final.—

Grammar, Prosody and Poetics.—

1. Kavirajamarga by Nripatunga. (Madras University Publication).
2. Rasaratnakara by Salva. (Madras University Publication).
3. Sabdamanidarpana by Kesiraja. (B. M. Book Depot, Mangalore).
4. Chhandassu by Nagavarma. (B. M. Book Depot, Mangalore).
5. Apratima Vira Charite by Tirumalarya. (Kavya Kalanidhi Office, Mysore).
6. Karnataka Vyakaranopanyasamanjari by R. Ragunatha Rao. (Viswa Karnataka Publishing House, Fort, Bangalore).
7. Muddana, (Viswa Karnataka Publishing House, Fort, Bangalore).
8. Karnataka Kavicharite by R. Narasimhacharya, Vols. I, II and III. (Author, Malleswaram, Bangalore).
9. Kavi Lakshmisa, (Satya Shodhana Book Depot, Fort, Bangalore City).
10. Kannada Jaina Vangmaya by R. Tatachar (Saraswati Printing Works, Mangalore).

VIDVAN UNDER REGULATION 7-B.

Preliminary.

General Literature.—

1. Nemi Jinesa Sangati by Mangarasa, Chapters 1 and 2. Edited by Santiraja Sastri. (Vardhamana Power Press, Mysore).
2. Sobagina Balli by M. Thimmappayya. (The Author, St. Aloysius' College, Mangalore).
3. Neeti Manjari, Part II, by R. Narasimhachar, Stanzas 1 to 100. (The Author, Malleswaram, Bangalore).
4. Bhava Chintaratna by Mallanarya.
5. Uttara Rama Charitra Natakada Kathe.

} Kavya Kalanidhi Office, Mysore.

6. Damayanti Swayamvara by Basappa Sastri (Pandit B. Mahadeva Sastry, Kerlapur P. O., Hassan Dt.).

7. Mricchakatika Nataka by N. Subba Sastri.

8. Bharata by Kumara Vyasa, Udayoga Parva, Sandhis 1—5 (both inclusive).

9. Naime by Sankarabhatta.

(7–9: Satya Shodhana Book Depot, Bangalore.)

Grammar.—

Sabdamanidarpana by Kesiraja (B. M. Book Depot, Mangalore).

Final.

General Literature.—

1. Adi Purana by Pampa, Chapters 5 and 6, (Government Oriental Library, Mysore).
2. Jagannatha Vijaya by Rudra Bhatta, Chapters 7 and 8 (Government Oriental Library, Mysore).
3. Girija Kalyana by Harihara Deva, Chapters 7 and 8.
4. Neminatha Purana by Nemichandra, Chapters 1, 2 and 3.
5. Ramaswamedha by Muddana.

(3–5: Karnataka Kavya Kalanidhi Office, Mysore.)

6. Pushpadanta Purana by Gunavarma. Chapters 4 and 5, (Madras University Publication—Copies available at C. Coomaraswami Naidu & Sons, G. T., Madras).
7. Mandodari by C. K. Venkataramayya. (Karnataka Publishing House, Bangalore).
8. Hindusthanada Prachina Rajya Paddhatigalu by V. H. Vodeyar, (Navajivan Book Depot, Dharwar).
9. Mudra Rakshasa Nataka by Ramasesha Sastri.
10. Bharata by Kumaravyasa, Karna Parva.

(9–10: M. R. Srikanta Sastry, Bharati Bhavanam, Chamarajpet, Bangalore City.)

Grammar, Prosody and Poetics.—

1. Sabdanusasana by Bhattakalanka (omitting the commentary). (Government Oriental Library, Mysore).
2. Kavirajamarga by Nripatunga (Madras University Publication—Copies available at C. Coomaraswami Naidu & Sons, G. T., Madras).
3. Rasaratnakara by Salva (Madras University Publication—Copies available at C. Coomaraswami Naidu & Sons, G. T., Madras).
4. Apratima Vira Charite by Tirumalarya (Kavya Kalanidhi Office, Mysore).

5. Chhandombudhi by Nagavarma, (Kavya Kalanidhi Office, Mysore).
6. Karnataka Vyakaranopanyasa Manjari by R. Raghunatha Rao, (Viswakarnataka Publishing House, Fort, Bangalore).
7. Ranna Kavi Prasthi (Viswakarnataka Publishing House, Fort, Bangalore).
8. Karnataka Kavi Charite by R. Narasimhacharya, Vols. I, II and III, (Author, Malleswaram, Bangalore).
9. Kannada Jaina Vangmaya by R. Tatachar, (Saraswati Printing Works, Mangalore).

MALAYALAM, 1937.

VIDVAN UNDER REGULATIONS 7-A AND 7-C.

Preliminary.—

Poetry.—

1. Kannasa Ramayanam—Sundarakandam—Edited by Ullur S. Parameswara Ayyar, M.A., B.L., (B. V. Book Depot, Trivandrum).
2. Bheeshma Parvam: Bharatham—By Ezuthachan. (Any Press).
3. Chitrayōgam—6, 7 and 8th Sargams—By Vallattole Narayana Menon. (Kalamandalam Office, Mulakunnath Kavu, Cochin State).
4. Pingala—By Ullur S. Parameswara Ayyar, M.A., B.L., Trivandrum.
5. Kālakēyavadham—Kathakali—Edited with Introduction and notes by P. Krishnan Nair, (Siromani), "Limbdi Gardens", Royapettah, Madras.

Drama.—

1. Nāgānandam—By K. P. Govinda Pisharoti (Vidvan), Pandit, Presidency College, Madras.
2. Uttara Rāma Charitam—By C. Chathu Kutty Mannadiar, (Mangalōdayam Press, Trichur).

Prose.—

1. Srī Harshan—By P. Kunhi Rama Kurup B.A., L.T., Headmaster, Muthedath High School, Taliparamba, N. Malabar.
2. Mārthānda Varma—By C. V. Raman Pillai, B.A., (Kamalaya Printing Works, Trivandrum).
3. Mandanamānjari—By D. Padmanabhan Unni, M.A., Union Christian College, Alwaye.

Final.—

1. Leelathilakam—By Attur Krishna Pisharoti, Poothole Pisharam, Trichur.
2. Kerala Panineeyam
3. Bhasha Bhushanam
4. Vrithamanjari.

   (Items 2–4:) By A. R. Raja Varma, M.A., (B. V. Book Depot, Trivandrum).

5. Malayala Bhashayum Sahityavum—Madras University Publication—(C. Coomaraswami Naidu & Sons, G. T., Madras).
6. Drāvida Vrithangal, etc.—By Appan Thampuran, Ayyanthole Palace, Trichur.

VIDVAN UNDER REGULATION 7-B.

Preliminary.—

1. Leelathilakam—By Attur Krishna Pisharoti, Poothole, Pisharam, Trichur.
2. Vyakarnamithram—By M. Seshagiri Prabhu, M.A., (Basel Mission Book Depot, Mangalore).
3. Poorva Peetika in Kerala Panineeyam—By A. R. Raja Varma, M.A., (B. V. Book Depot, Trivandrum).

Poetry.—

1. Krishnagātha—Subadhraharanam—By Cherusseri (Any Press).
2. Bharatham—Karna Parvam—By Ezuthachan (Any Press).
3. Uttara Rāma Charitam—Kilipāttu—By Attur Krishna Pisharoti, Poothole Pisharam, Trichur.
4. Unnuneeli Sandesam—Edited by Attur Krishna Pisharoti, Poothole Pisharam, Trichur.
5. Kirmeera Vadham, Katha Kali with introduction and notes—By P. Krishnan Nair, "Limbdi Gardens", Royapettah, Madras.

Prose.—

1. Sāhityamanjushika—By Vadakkankoor Raja Raja Varma, (Mangalodayam Press, Trichur).
2. Sri Harshan—By P. Kunhi Rama Kurup, B.A., L.T., Headmaster, Moothedath High School, Taliparamba, N. Malabar.
3. Vignāna Deepika—Part II—By Ullur S. Parameswara Ayyar, M.A., B.L., Trivandrum.
4. Marthānda Varma—By C. V. Raman Pillai, B.A., (Kamalalaya Printing Works, Trivandrum).

Final.—

1. Kerala Panineeyam
2. Bhāsha Bhushanam
3. Vrithamanjari.

} By A. R. Raja Varma, M.A., (B. V. Book Depot, Trivandrum).

4. Kerala Sahitya Charitram—By R. Narayana Panikkar, B.A., L.T., (S. T. Reddiar & Sons, Quilon).
5. Nātaka Pravēsika—By A. D. Hari Sarma, (V. V. Publishing House, Ernakulam).
6. Bhashayum Sahityavum—By Attur Krishna Piisharoti, (University Publication—C. Coomaraswami Naidu & Sons, G. T., Madras).
7. Drāvida Vrithangal, etc.—By Appan Thampuran, Ayyanthole Palace, Trichur.
8. Thunchath Ezuthachan—By P. K. Narayana Pillai, B.A., B.L., (S. R. V. Press, Quilon).

Poetry.—

1. Ramacharitham—10 to 18 Patalams—(University Publication—C. Coomaraswami Naidu & Sons, G. T., Madras).
2. Kuchēla Vritham and Krishna Vilasam—University Publication—By C. Achyuta Menon, B.A.—(C. Coomaraswami Naidu & Sons, G. T., Madras).
3. Rājaratnāvaleeyam Champu—(Mangalodayam Press, Trichur).
4. Vijayōdayam—By Pantalam Kerala Varma—(S. R. Book Depot, Trivandrum).
5. Kuchēla Vritham—Vanchipattu—By Ramapurath Varier (Any Press).
6. Kalakēya Vadham Kathakali—Edition by P. Krishnan Nair, "Limbdi Gardens", Royapettah, Madras.

Drama.—

1. Ascarya Chūdamani—By Kunhu Kuttan Thampuran, (B. V. Book Depot, Trivandrum).
2. Prabhōdhachandrōdayam—By N. Kumaran Asan (Mrs. N. K. Asan, Thonnakkal, Murukkumpuzha, Travancore).

Afzal-ul-Ulama and Munshi-i-Fazil Title Examinations.

1937.

Will be prescribed later.

Oriental Titles Examinations, 1938.

SANSKRIT, 1938.

Preliminary and Final for all Branches.

The same as for 1937.

APPENDIX XIV.

EXAMINATION FOR CERTIFICATES OF PROFICIENCY IN ORIENTAL LEARNING.

The following syllabuses, for the subjects of the Optional division for Certificates of Proficiency in modern methods of study as applied to Oriental Learning, have been prescribed:—

I.—*Syllabus in Literary Criticism as applied to Sanskrit Literature*

1. *The fundamentals of Sanskrit Poetics*—
   (*a*) Standard of literary taste.

   (*b*) The general characteristics of literature.

   (*c*) Theories of style, its kinds and relation to sense—(*Vritti, Riti, Sayya and Paka*—)

   (*d*) The doctrine of Rasa—

   The theories of Rasa. The different classes of Rasa and their nature. The significance of the Rasa doctrine in literary criticism. The Rasa doctrine as the central theme of the Psychology and Philosophy of literary criticism.

   (*e*) Literary merits and blemishes.

   (*f*) Figures of speech—their literary value.

2. *The History of Sanskrit Poetics*—

   Pre-dhvani schools. The development of the *Dhvani* school The anumana school. The development of figures of speech.

3. The Kavya kinds—their characteristics and development.

4. *Sravya-kavya*—
   (*a*) Prose—Development of prose. Kinds of prose-style description, narration, exposition and persuation.

   (*b*) Poetry—Epic-Lyric-Didactic—Satire - Elegy-Devotional poems

   (*c*) Campūs.

5. *Drsya-kavya*—
   (*a*) Dramatic kinds, their characteristics and development.

   (*b*) Conventions of the Sanskrit drama.

   (*c*) Principles of dramatic construction.

6. Sanskrit—Metres—their bearing on literary criticism.

N.B.—The following books should be studied. They are not prescribed:—

1. Bain—Rhetoric and Composition (single volume book)—Longmans.
2. Crawshaw—The Interpretation of Literature—Macmillan.
3. Hudson—An introduction to the study of literature—George G. Harrap & Co., London.
4. Hass—Daśarūpaka—(English translation.)
5. Horrwitz—Indian theatre.

The following books are recommended for consultation:—

1. Brander Matthews—A study of the drama—Longmans.
2. Butcher—Aristotle's theory of Poetry and Fine Art with text and translation of the Poetic—Macmillan.
3. Winchester—Some principles of literary criticism—Macmillan.
4. Courthope—Life in Poetry and Law in Taste.
5. Articles on *Poetry, Fine Arts* and *Drama* in the Encyclopædia Britannica.

II.—*Syllabus in Indian Philosophy in its relation to Western Philosophy*

The following books are prescribed for study:—

1. A. S. Rappoport—A Primer of Philosophy—(John Murray).
2. P. Deussen—Elements of Metaphysics—(English Trans.)
3. Max Muller—Six Systems of Philosophy.
4. A. B. Keith—Indian Logic and Atomism—Oxford University Press.
5. Deussen—The Philosophy of the Upanishads Eng. Trans.).
6. Deussen—The system of the Vedanta.

N.B.—Candidates are expected to be familiar with the original philosophical texts in Sanskrit on which the above-mentioned works of Max-Muller and Deussen are based.

III.—*Syllabus for Indo-European Philology with special reference to Sanskrit.*

N.B.—Knowledge, accurate, so far as it goes, but neither extensive nor minutely detailed, is expected under each head.

P.I.E.=Primitive Indo-European; Ind-Ir.=Indo-Iranian; Skt. =Sanskrit; Gk.=Greek; Lat.=Latin; Teut=Teutonic.

A. General.

1. *Elementary Phonetics.*—(*a*) The organs of speech—production and classification of speech-sounds. Quantity: accent sentence, word, and syllable-accent. Glides.

(*b*) Phonetic description of all speech-sounds treated in the course, Phonetic transcription.

(*c*) Sound-change; isolative, conditional; defective imitation and the result of analogy; Meaning of the term 'Law' in Linguistic Science. Dialectal separation. Growth of 'literary' languages. Families of languages. Cognate words and loan words.

2. *The Indo-European Family of Languages.*—The original speech and its earliest dialectal divisions. Branches and sub-branches of the Indo-European family. Some distinguishing characteristics of the Indo-Iranian, Hellenic, Italic, and Teutonic branches.

3. *Indo-Iranian.*—The Indian Sub-Branch. Dialects of Vedic times. Epic dialects. Classical Sanskrit. Middle Indian Speeches, New Indian Speeches.

B. Phonology.

4. *The P. I. E. vowel-system.*—The oldest conditions; primary vowels; changes resultant on accent; secondary vowels and syllabic liquids and nasals. Vowel-gradation, quantitative and qualitative; its relation to accent and its bearing on morphology. The later P.I.E. vowel-system prior to the period of language saparation. General treatment of the P.I.E. vowel-system in the oldest Ind-Ir., Gk., Lat. and Teut.

5. The vowel-system of Skt. in its relation to P.I.E. and to the vowel-systems mentioned in IV. Vowel-gradation in Skt.

6. *The P.I. E. Consonant system.*—Classification of the P.I.E. consonants. Earliest dialectal variations; the 'centum' and 'satam' divisions. Treatment of the P.I.E. consonants generally in Ind.-Ir., Gk., Lat. and Teut.

7. Representation of the P.I.E. consonant-system in Skt. liquids and nasals. Plosive consonants. Cerebral consonants. (Fortunatov's Law) Palatal and velar consonants. (The Law of

palatalization). The law of aspirates (Grassman's Law). Spirants. Semi-vowels.

8. Sandhi, external and internal. Glides in Skt. Anaptyxis (Svarbhakti). Haplology.

C. ACCIDENCE

9. Word-formation. Base, stem and suffix. Prefix-Infix.

10. Skt. compounds, nominal and verbal.

11. Skt. Suffixes primary (krt.) and secondary (ta'ddhita).

12. *Nominal Declension.*—P.I.E. conditions. Number. Grammatical Gender. Case and case-endings. The P.I.E. case-endings. Syncretism. Contamination. Classification of noun-declensions according to suffix. Vowels and consonant-stems.

13. *The noun declensions in Skt.* treated historically and comparatively with reference to P.I.E., Gk., Lat. and Teut. Philological explanation of all case-endings. Comparison of adjectives and formation of adverbs treated philologically.

14. *Numerals.*—Philological treatment of the Skt. numerals.

15. *Pronouns and pronominal adjectives.*—The Skt. pronouns and pronominal adjectives treated philologically with reference to P.I.E., Gk., Lat. and Teut.

16. *The Verb.*—The P.I.E. verbal-system generally treated. Voice, mood, tense, augment, reduplication, personal endings. Thematic and Athematic stems. Types of verbal action.

17. The Skt. verb in its relation to the P.I.E. verbal system Present perfect, aorist and future systems in Skt. Transfer from the athematic to the thematic class. Periphrastic formations. Analogy in the Skt. verbal-system. Derivative verbs—causative, denominative, desiderative, intensive.

18. Voices, moods and tenses in Skt. Infinite verbal formations.

IV.—*South Indian Languages and Literatures in their bearing on Ancient Indian History and Culture.*

(1) Candidates will be expected to show extensive study in the language of their choice whether they be Dravidian or Sanskrit.

(2) In addition, they will be expected to have studied the literature of these languages in their historical bearings.

(3) They will be further expected to have a competent knowledge of South Indian History, as in the syllabus prescribed under the heading as above, numbered 3 in APPENDIX III (Page 415).

V.—*Syllabus for Hindu Law and Jurisprudence*

The following nine books are prescribed for study:—

Books in Sanskrit

1. Manu Smṛti with Kullukabhatta's Commentary (whole)
2. Yajñavalkya Smṛti with Mitākṣarā (whole).
3. Jimūtavāhana's Dāyabhāga (whole).
4. Viramitrodaya - Vyavahāra only.
5. Kautilya's Arthaśāstra—To be had of Curator, Government Oriental Library, Mysore.

(1) to (4) can be had of Punjab Sanskrit Book Depot, Said Mehta Bazaar, Lahore.

Books in English.

*6. Mayne: Hindu Law and Usage.
7. Mayne: Ancient Law.
8. Austin: Jurisprudence.
9. K. L. Sircar: The Mimāmsa Rules of Interpretation (Tagore Law Lectures) (Thacker Spink & Co., Calcutta).

The following three books are recommended for consultation but in no sense prescribed:—

1. Maxwell: On the Interpretation of Statutes.
2. Sidgwick: Elements of Politics.
3. Bentham: Principles of Morals and Legislation.

VI.—*Muhammadan Law Jurisprudence.*

Muhammadan Jurisprudence by Abdur Rahim.

Digest of Anglo-Muhammadan Law by Sir R. K. Wilson.

Muhammadan Theories of Finance by Aghnides.

Al-Qiyas Fish Shar'il-Islami by Ibn Qayyim.

Tarikhut Tashri-il-Islami by Al-Khuzari.

Muslim Theology, Jurisprudence, and Constitutional Theory by Macdonald.

Al-Majallah.

Kitabul Khiraj by Abu Yusuf.

Proposed Political, Social, Legal, and Judicial Reforms under Muslim Rule by Chiragh Ali.

Syllabuses for

VII.—*Literary Criticism as applied to Arabic.*

VIII.—*Arabian Philosophy in its relation to Western Philosophy, and*

IX.—*Semitic Philology.*

(i) *LITERARY CRITICISM AS APPLIED TO ARABIC.*

Criticism on Arabic poetry and prose. In poetry will be included the pre-Islamic and the Islamic poetry.

Books recommended for study:—

1. Naqdush-Shir, by Qudamah b. Jafar.
2. Muwazanah Bayna Abi Tammam wal-Buhturi, by Hasan Amidi.
3. Al-Umdah, by Ibn Rashiq.
4. Kitabul-Aghani.
5. Literary History of the Arabs, by R. A. Nicholson.
6. History of Arabic Literature, by Clement Huart.
7. Arabian Poetry, by Sir Charles Lyall.

(ii) *ARABIAN PHILOSOPHY*

1. The Influence of Aristotle on Arabian Philosophy.
2. The Work of Syrian and Nestorian Translators under the Abbasids.
3. The Mutakallimun and the Reaction under Ghazzali.
4. Sufi-ism.

Books recommended for study:—

1. Works of al-Kindi and al-Farabi.
2. Ghazzali's Ihyau Ulumiddin and Tahafutul-Falasifah
3. Ibn Rushd's Tahafutul-Falasifah.
4. Al-Milal wal-Nihal, by Al-Shahristani.
5. Al-Insanul-Kamil, by al-Jili.
6. Kashful-Mahjub, by Al-Fujwiri.
7. Al-Risalatul-Qushyriyyah, by al-Qushayri.
8. Philosophy in Islam, by de Boer.
9. Arabian Thought and Its Place in History, by O'Leary.
10. Metaphysics in Persia, by Iqbal.
11. Studies in Islamic Mysticism, by Nicholson.

(iii) *SEMITIC PHILOLOGY*

The meaning of the term Semitic. The original home of the Semitics. The dialects of the Semitic languages. Semitic writing. Semitic alphabet and the changes they undergo. Semitic vowels and consonants, and their permutations. The etymological and syntactical formations and forms in Semitic languages and the various changes and differences undergone by them. Semitic phonology. The relation of the various Semitic dialects with each other. Arabic in its relation with the non-Semitic languages.

Books recommended for study:—

Al-Bayan wal-Tabyin, by al-Jahiz.

Al-Mizhar, by Al-Suyuti.

Al-Muarrab, by al-Jawaliqi.

Shifaul-Ghalil, by Al-Khaffaji.

Kitabul-Azdad, by al-Anbari.

Comparative Grammar of the Semitic Languages, by W. Wright.

Oriental and Linguistic Studies by Whitney.

Syllabuses of

(i) Literary Criticism as applied to Persian and (ii) Indo-Persian Philology

(i) *LITERARY CRITICISM AS APPLIED TO PERSIAN POETRY AND PROSE LITERATURE*

Only the literature in 'Modern Persian' will have to be studied

***Books** recommended for study:—*

1. Shirul-Ajam, by Shibli.
2. Khizana-i-Amirah, by Azad Bilgirami.
3. Tazkiratush-Shuara, by Dawlet Shah Samarqandi.
4. Atishkadah, by Lutf Ali Azar.
5. Studies in Islamic Poetry, by Nicholson.
6. Persian Portraits, by Arbuthnot.
7. Literary History of Persia, by Browne.

(ii) *INDO-PERSIAN PHILOLOGY.*

The Aryan family of the world languages with special reference to the Indo-Persian branch thereof. Origin of 'Modern Persian,' its real ancestors. The relation between Avesta and Sanskrit. The various dialects of the Iranian languages and their limits. The gradual merging of the old Avestan and Pahlavi

forms and their admixture with Arabic. Persian phonology in its relation to the other Aryan and Semitic languages. The etymological and syntactical changes undergone by the Persian language comparatively as well as individually.

Books recommended for study:—

1. Sukhandan-i-Fars, by Azad.
2. Indo-Iranian Phonology, by Gray.
3. Avesta, Pahlavi and Ancient Persian Studies.
4. Avesta Grammar by Kanga. (Sanjana).
5. Discourses on Iranian Literature, by D. M. Madan.
6. Literary History of Persia, by Professor Browne.
7. The Authenticity of the Aryan Family of Languages Pahlavi and Huzwaresh, by Cama.

X.—*Syllabuses for Dravidian Philology with special reference to the Dravidian Languages of South India.*

(i) *Syllabus for Dravidian Philology with special reference to Tamil.*

(1) Syllabus for the Comparative Grammar of the Dravidian Languages for Gr. (v) of B.A. (*Vide* page 403).

and (2) Syllabus for the History of the Tamil Language for Gr. (v) of B.A. (*Vide* page 405).

(ii) *Syllabus for Dravidian Philology with special reference to Telugu.*

(1) Syllabus for the Comparative Grammar of the Dravidian Languages for Gr. (v) of B.A. (*Vide* page 403).

and (2) Syllabus for the History of the Telugu Language for Gr. (v) of B.A. (*Vide* page 408).

(iii) *Syllabus for Dravidian Philology with special reference to Kanarese.*

(1) Syllabus for the Comparative Grammar of the Dravidian Languages for Gr. (v) of B.A. (*Vide* page 403).

and (2) Syllabus for the History of the Kanarese Language for Gr. (v) of B.A. (*Vide* page 410).

(iv) *Syllabus for Dravidian Philology with special reference to Malayalam.*

(1) Syllabus for the Comparative Grammar of the Dravidian Languages for Gr. (v) of B.A. (*Vide* page 403).

and (2) Syllabus for the History of the Malayalam Language for Gr. (v) of B.A. (*Vide* page 413).

APPENDIX XV.

Syllabus for the Diploma Course in Modern European Languages.

FRENCH.

First Term.—The work will include the elements of grammar and pronunciation, the use of simple sentences and translation (prepared and unseen). (One of the text-books may be read).

Second Term.—Grammar (continued); more advanced translation; reading of prescribed texts; conversation.

Third Term.—Translation (a) French-English, (b) English-French; conversation and correspondence; completion of prescribed texts; free composition.

GERMAN.

Syllabus.

First Term.—The work will include the elements of grammar and pronunciation, the use of simple sentences and translation (prepared and unseen). (One of the text-books may be read).

Second Term.—Grammar (continued); more advanced translation; reading of prescribed text-books; conversation.

Third Term.—Translation—(a) German-English, (b) English-German, conversation and correspondence, completion of prescribed text-books; free composition.

Text-books in French and German.

1935.

FRENCH.

Erckmann—Chatrian: Waterloo. (Macmillan).

About: Le roi des montagnes.

J. Macé : La vache enragée (Macmillan),

GERMAN.

1935.

Deutsches Lesebuch für höhere Lehranstalten, Erster Teil by Heinrich Bone, Köln.

I Prose, pages 1—48, 133—151.
II Poetry, Numbers 292—312, 408—415.

Syllabus for the Diploma Course in Geography.

(a) *The Physical Basis of Geography,* including the elements of Meteorology, Oceanography, and Geomorphology.

Meteorology.—The Atmosphere, distribution and variation of insolation, temperature, pressure, humidity, and precipitation, and the causes of this distribution and variation. Movements of the atmosphere and their causes, storms. Classification of climates.

Oceanography.—Distribution of temperature and salinity in the oceans. Movements of the water, tides.

Geomorphology.—The influence of rock-texture, tectomic movements, and volcanic activity on relief. The evolution of fluvial, glacial, aeolian and littoral topography. Theories to account for the present distribution of land and sea. Structure and development of the present land-masses.

Reading and discussion of physical and geological maps and weather charts.

(b) *A Short Course in one* of the three following:—

1. Historical and Political Geography.

2. Economic Geography.

3. Bio-Geography and Anthropo-Geography.

(c) *The Use of Instruments,* map-making, map-reading, and map-correlation, including practical work in class and field, and the presentation of a short dissertation on a selected area in India. The particular area must be selected by the student in consultation with his teacher.

The candidates will be expected to be able to measure angles and distances, to use a plane-table, a prismatic compass, a clinometer, and an aneroid barometer, to read and measure maps, to draw sections showing vertical relief, to convert contoured into

hachured maps, to show a knowledge of the methods by which the data are collected for cartographical purposes, and to express cartographically (that is, by means of isotherms, isobars and other isometrical lines, shaded or tinted areas, and other signs) any given data relating to climate, population, and other similar subjects.

(d) *General Regional Geography of the World*, with a special study of two of the continents, of which Asia shall be one.

1935.

Second Continent for Regional Study for 1935—*Europe.*

Text-Books.—

Physical Geography: P. Lake, (Cambridge University Press).

Groundwork of Geography: A Wilmore, (G. Bell and Sons).

Mathematical Geography: Jameson and Ormsby. Volume I, (Pitman).

Continent of Europe: Lyde, (Macmillan & Co.).

Intermediate Commercial Geography: L. D. Stamp, 2 Vols., (Longmans' Green & Co.).

Reference Books.—

Shorter Physical Geography: De Martonne, (Christophers).

Climate: Kendrew, (Oxford University Press).

Physical Geography: Salisbury.

Geographical Interpretation of Topographical Maps: Alice Garnett, (Harrap).

South America: Shanahan, (Methuen).

North America: R. Jones, (Methuen).

Australia: Griffith Taylor, (Oxford University Press).

Africa: Suggate, (Harrap).

An Economic and Regional Geography of Asia: L. D. Stamp, (Methuen).

Diploma Course in Indian Music.

Syllabus.

1. Saptha swaras, twelve srutis and 3 sthayis.

2. Paras 2, 3 and 5 (a) of the Intermediate Syllabus (*Vide* page 335).

3. Knowledge of the construction and tuning of the violin, veena, thambura and gotuvadyam.

4. Study and critical appreciation of 2 kritis each of Tyagaraja, Muttuswami Dikshitar, and Syama Sastri, and one musical composition each from any five of the 22 composers mentioned in para 8 of the B.A. Syllabus (*Vide* page 423).

5. Ability to write down correctly in the *sa ri ga ma* notation any one of the songs learnt.

There shall be one theory paper of two hours duration carrying 60 marks and a Practical examination carrying 90 marks.

A separate minimum of 30 per cent will be required in the practical examination.

The practical examination shall be either in vocal music or instrumental music. Instrumental music candidates shall have the option of playing the veena, violin, flute or gotuvadyam at the practical examination.

At the Practical Examination candidates will be expected to sing or play any of the 15 ragas prescribed as well as compositions in them in any of the following talas:—Adi, Roopaka, Triputa, Chapu and Jhampa.

APPENDIX XVI.

B.A. DEGREE EXAMINATION

Regulations which were in force prior to 1929-30.*

Undergraduates proceeding to B.A. or B. A. (Hons.)

1. Undergraduates who have passed the Intermediate Examination in Arts and Science shall undergo a further course of study in an affiliated college varying in length according as they intend to proceed to the Bachelor of Arts Degree Examination or to the Bachelor of Arts (Honours) Degree Examination.

DEGREE OF BACHELOR OF ARTS.

A. Courses of Study.

Courses of Study for B.A.

2. For the B.A. Degree the course shall extend over a period of two years each consisting of three terms ordinarily consecutive and shall comprise instruction in—

Part I. English Language and Literature.

Part II. One of the following groups:-

(i) Mathematics.

(ii-A) Physical Science.

(ii-B) Physical Science.

(iii) Natural Science.

(iv) Psychology, Ethics, and Logic or a Language.

(v) History and Economics.

(vi) Languages other than English.

B. Examinations.

Eligibility for the Degree

3. (*a*) No candidate shall be eligible for the degree of Bachelor of Arts until he has passed an examination in English Language and Literature and in one of the optional groups contained in the courses of study.

*The examination under this Regulation will be held till 1935 for the benefit of candidates who have undergone the course. Wherever possible the papers will be common and in accordance with the New Regulations.

Admission to Examination

(*b*) No candidate shall be admitted to the examination unless he has passed the Intermediate Examination in Arts and Science in this University or an examination accepted by the Syndicate as equivalent thereto.

Candidates may appear for whole Examination or for parts

4. A candidate for the B.A. Degree Examination may at his option present himself for the whole or for either Part at any one time.

Subjects for examination Part I – English

5. Candidates shall be examined in—

1. English Language and Literature

The course shall be (*a*) Composition on matter supplied by books set for perusal, (*b*) the study in detail of certain prescribed books.

The books set under (*a*) may include works of fiction, literary criticism, biography, history, science or philosophy.

Books set under (*b*) shall be arranged in the following groups:—

(1) Two plays of Shakespeare.

(2) Modern Poetry.

(3) Seventeenth and eighteenth century prose beginning with Dryden.

(4) Nineteenth century prose.

The paper on the books under (*a*) shall consist exclusively of subjects for short essays, and of these the paper shall contain a larger number than the candidate is permitted to attempt.

The papers set under (*b*) shall give the candidate an opportunity of showing an acquaintance with the life and work of the authors of the books prescribed.

Part II— Optional Groups

II. One of the following groups at the option of the candidate:—

(i) *Mathematics*

(i) Mathematics

In addition to the subjects prescribed under (*a*) Mathematics, (*b*) Physics, in Group (*i*) for the Intermediate Examination, the course will comprise Algebra, Plane Trigonometry, Geometry, Elements of the Calculus, Dynamics, Hydrostatics, Astronomy, Properties of Matter and Heat.

Pure Mathematics

Algebra.—Inequalities, Limits, Elementary theorems in convergence and divergence of series. The binomial theorem for a rational index. Exponential and Logarithmic series. Partial fractions, elementary methods for the summation of series. The elementary properties of continued fractions Indeterminate equations of the first degree. Elementary properties of Determinants. Typical graphs.

$$y = ax^n, \quad y = a/x^n, \quad y = ax + b + c/x, \quad y = ax + b + c/x^2$$

Graphical solution of cubic and biquadratic equations.— General properties of the equation of the *n*th degree and its roots and co-efficients. *Simple* transformations of equations. Reciprocal equations. Approximate solution of numerical equations.

Trigonometry.—Fuller treatment of the Intermediate Course. *Quadrilaterals inscribed in and circumscribed about circles. Regular polygons. Limits of sin $x|x$ and tan $x|x$ as x tends to zero.* DeMoivre's theorem and its *immediate* applications. Summation of elementary trigonometrical series.

Pure Geometry.—As in the Intermediate Course, and in addition, Harmonic ranges and pencils. Inversion.

Geometry of the line, plane, sphere, the right cylinder, and the right cone.

The fundamental geometrical properties of the conic sections.

Analytical Geometry.—The Cartesian equations of the straight line and the circle referred to rectangular axes, the parabola, elipse, and hyperbola referred to their principal axes, and the rectangular hyperbola referred to its asymptotes. The general equation of the second degree. The polar equations of the straight line, circle and the conic, simple problems on the above.

Calculus.—Standard forms and fundamental processes of differentiation and integration. Simple applications of the derivative to geometry, algebra, mechanics and physics. Maxima and minima values of a function of one variable. Theorem of mean value (graphical proof). Approximations and small errors. Curvature, Cartesian formula for the radius of curvature. Integration by substitution. Integration by parts. Integration regarded as summation, with simple applications to areas, volumes and surfaces and to mechanics. Solution of the differential equation of simple harmonic motion.

Applied Mathematics.

Dynamics.—Resolution and composition of displacements, velocities, and accelerations. Curves of speed and velocity diagrams. Motion of a particle in one plane under constant accelerations. Simple harmonic motion; composition of simple harmonic motions. Angular velocity and angular acceleration; moment of velocity.

Absolute units of force. Resolution and composition of forces. Angular momentum; moments of inertia in simple cases; the pendulum; determination of *g*. Work, energy, conservation of energy; energy diagrams. Impact; the ballistic pendulum. Simple cases of the dynamics of strings. Dimensions of dynamical units. Conditions of equilibrium of a body acted on by forces in one plane. Moments, couples. Centre of mass. The theory of simple machines. Laws of friction. Graphical methods with simple applications.

Hydrostatics.—As in Group (ii-A).

Astronomy.—The apparent motion of the heavens. Circumpolar stars. The principal constellations and the most conspicuous stars.

The celestial sphere.—Points and lines on it:—Horizon, zenith, poles, meridian, etc.: the equinoxial points, etc.

Celestial co-ordinate; right ascension, declination, etc., latitude and longitude.

The transit circle, the equatorial, the clock. *The transit theodolite.* The sextant and chronometer.

Phenomena depending on change of latitude and longitude of the observer: Magnitude of the earth.

The apparent annual motion of the sun. The constellations of the zodiac. The ecliptic and its obliquity. The equinoxes and the solstices. *The earth's motion round the sun.* The seasons.

Sideral time, apparent solar time, mean solar time. Equation of time. Standard time (India). Civil and astronomical reckoning. Conversion of time.

Explanation of astronomical refraction and parallax. Twilight.

Determination by observation of clock error and rate, of right ascension and declination of a heavenly body, and of the latitude and longitude of a station.

The solar system, and the motion of the planets. *Kepler's laws. Comets and meteors.*

The motion of the moon and her phases. The plane of her orbit. The nodes and their motion. The moon's sideral and synodic periods. Her diameter and distance.

Distances and magnitudes of the sun, moon and planets.

Causes of the eclipses of the sun and the moon. Ecliptic limits. *Number of Eclipses in a year. The Calendar. The use of the Nautical Almanac.*

Properties of matter.—As in Group (ii-A).

Heat.—As in Group (ii-A).

(ii-A) *Physical Science.*

(ii-A) Physical Science

Physics.—The course includes a more extended study of the matter included in the Intermediate course and in addition the following:—

Dynamics.—As in Group (i).

Properties of matter.—Elasticity: Hook's Law. Compressibility of gases (at high and low pressure) and liquids. Compressibility and rigidity of solids; the elastic limits. Strains due to simple longitudinal pull; Young's modulus and its expression in terms of *k* and *n*. Bending in one plane of bars of simple cross sectional area; flexural rigidity: application to girders. Simple twisting of wires of circular cross sectional area by couple in plane at right angles to length; torsional rigidity; applications to torsion balance, and shafts.

Diffusion of liquids and gases; analogy with conduction of heat. Osmosis. Viscosity. Pressure of a gas and its explanation on the kinetic theory; Avogadro's hypothesis: Vander Waal's equation.

Hydrostatics.—Thrust of fluid on plane and curved surfaces. Centre of pressure in simple cases. Floating bodies and conditions of stability. Properties of gases: determination of heights by barometer. Pumps, pressure gauges, and hydrostatic machines. Capillary phenomena and their explanation by surface tension; general theory of surface tension.

Heat.—The methods of calorimetry and thermometry. Vapour pressure, critical temperature and pressure. Conduction and diffusion of heat and the determination of constants. Radiation and absorption; laws of cooling. Theory of exchanges; methods of measuring radiation. Laws of thermodynamics; simple applications.

Light.—Velocity of light. Illumination; photometry. Achromatism in lens systems; direct vision spectroscope.

The wave theory; simple interference phenomena. Huygens' principle. Explanation of straight line propa-

gation, reflexion, and refraction of light. Action of mirrors, lenses, etc., reviewed from this standpoint. Simple diffraction phenomena. Gratings and wave length determination. Spectrum analysis; Doppler's principle. Double refraction and polarization of light; rotatory polarization; simple applications.

Magnetism.—Forces on a magnet in a magnetic field. Determination of axes and moment of magnet. Magnetic potential, level surfaces. Interaction of two short magnets; determination of field strength. Magnetic shell; its potential energy in magnetic field. Total normal induction, Gauss' theorem; number of lines of force. Magnetic induction in iron, etc. Theory of magnetism.

The magnetic field of the earth; the elements and their variations; the compass and its corrections.

Electricity.—Electric capacity; specific inductive capacity. Distribution of electricity on surface of conductors; images. Value of electric force in simple cases of distribution. The mechanical force on charged conductors; energy of electrified systems. The dielectric medium; dielectric displacement currents.

Wheatstone's bridge; specific resistance; resistance thermometers. Conductivity of eletrolytes; ionization; migration phenomena; accumulators, Standard cells; the potentiometers system of measurement. Thermoelectricity; application of thermodynamics; thermoelectric diagrams. Electro-magnetic induction; Co-efficients of induction; induction coils. Energy of circuit carrying current when placed in a magnetic field; mechanical force on conductors carrying current; moving coil instruments. Lenz's law; illustration from dynamos and motors, etc. Determination of current resistance, E.M.F. in absolute measure. The discharge of a condenser: electric waves.

The elementary theory of the continuous current dynamo and motor and of the alternate current dynamo. General principles of the application of electricity to lighting, power transmission, telegraphy, etc.

Sound.—The transmission of energy through material media by wave motion; speed of propagation of waves of

permanent type. Nature of musical sound; pitch, scales. Reflexion and refraction of sound; influence of wave length. The vibration of strings, bars, plates and gas columns; resonance. Interference and diffraction phenomena. Analysis of sounds. Measurement of wave length, velocity and pitch.

A practical examination will be held to test the candidate's acquaintance with the phenomena and his ability to show them, as well as his ability to make physical measurements. At the practical examination candidates must submit to the Examiner or Examiners their laboratory note-books duly certified by their professors or lecturers as a *bona fide* record of work done by the candidates.

Chemistry.—The course is the same as that prescribed in General Theoretical and Physical Chemistry in (ii-B) excluding the chemistry of the carbon compounds, but the examination will be of a less advanced character than that for candidates taking (ii-B).

A practical examination will be held to test the candidate's ability to make experiments illustrating the subjects included in the course, identifying the more common metals and their compounds (containing not more than one acid and one base), and making simple volumetric analyses with standard solutions of acids, alkalis, potassium permanganate, and of iodine and sodium thiosulphate.

(ii-B) *Physical Science.*

(ii-B) Physical Science.

Chemistry.—General Theoretical Chemistry and Physical Chemistry.—The methods of determining equivalents, atomic and molecular weights; the atomic theory; valency; osmotic pressure; the kinetic theory of gases; the properties of solutions; electrolysis and theory of electrolytic dissociation; the relations of the physical properties of substances to their chemical nature, with special reference to the rotation of the plane of polarization, to refraction and dispersion, crystalline form, atomic and molecular volume, emission and absorption spectra.

The law of mass action; the velocity of chemical change; and the relations of chemical energy to heat, and to electrical energy.

The elements (excluding the rare metals) and their compounds studied in detail.

Chemistry of the carbon compounds treated from an elementary standpoint:—

(1) Composition, purification and analysis of organic compounds.

(2) The hydrocarbons of the methane, ethylene and acetylene series and their derivatives.

(3) The alcohols, aldehydes, ketones and their derivatives.

(4) The alkyl derivatives of the more important elements.

(5) The fatty acids and their derivatives.

(6) The hydroxy acids and their derivatives.

(7) The unsaturated acids and their derivatives.

(8) The more important members of the carbohydrate group.

(9) Benzene, naphthalene, anthracene and their more important derivatives and reactions.

The practical examination in Chemistry will include—

1. Qualitative analysis, including analysis of mixtures of mineral substances.

2. Quantitative analysis, including (*a*) the estimation of alkalis, alkaline carbonates, and acids, by neutralization, (*b*) determinations involving the use of the permanganate, dichromate, iodine and thiosulphate pro-

cesses, (*c*) the estimation of chlorides and cyanides by titration with silver nitrate, and also with thiocyanate, (*d*) gravimetric determinations of iron, calcium, copper, silver, lead, sulphuric acid, hydrochloric acid, phosphoric acid.

Candidates will be required to be able to standardize the solutions for volumetric analysis.

3. The determination of molecular weights.

4. Preparation of at least six simple organic substances: *e.g.*, Chloroform, Ether, Ethylacetate, Acetic Anhydride, Urea, Nitrobenzene, Aniline; Phenol; Benzoic Acid (from Toluene), Iodobenzene, Salicylic acid, Azodye, etc.

At the practical examination candidates must submit to the Examiner or Examiners their laboratory note books (duly certified by their professors and lecturers) as a *bona fide* record of work done by the candidates.

Physics: *Properties of matter.*—Compressibility of gases (at high and low pressure) and liquids. Diffusion of liquids and gases. Analogy with conduction of heat. Osmosis, viscosity, pressure of a gas, and its explanation on the kinetic theory; Avogadro's hypothesis, Vander Waal's equation.

Hydrostatics.—As for candidates taking Group (ii-A).

Heat.—As for candidates taking Group (ii-A).

Light.—As for candidates taking Group (ii-A), but excluding Geometrical Optics.

Electricity.—As for candidates taking Group (ii-A), but excluding Statical Electricity.

The examination in these subjects will be of a less advanced character than that for candidates taking Group

(ii-A). A practical examination will be held to test the candidate's knowledge of the subjects in this syllabus and his ability to make simple Physical measurements.

(*iii*) *Natural Science.*

(iii) Natural Science

Candidates shall take any two of the following subjects, one of the two being a subsidiary subject:—

A. Botany. B. Zoology.

C. Geology. D. Human Physiology. (As main only.)

A. Botany. I.—as the main subject.

A. Botany

1. The main points of structure, development, life history and the taxonomic relation of the following groups in general and the Genera in particular:—

BACTERIA.

Cyanophyceæ

Oscillaria, Nostoc, Rivularia.

Chlorophyceæ

Chlamydomonas, Pandorina, Eudorina, Volvox, Ulothrix, Ulava, Enteromorpha, Coleochæte, Protococcus, Scenedesmus, Hydrodictyon, Cladophora, Vaucheria, Caulerpa, Botrydium, Spirogyra, Zygnema, Desmids, Chara, Nittella, Diatoms.

Phæophyceæ

Ectocarpus, Fucus, Sargassum, Dictyota.

Rhodophyceæ

Batrachospermum, Polysiphonia, Gracilaria.

Phycomycetes.
Pythium, Phytophthora, Mucor, Rhizopus, Pilobolus.

Ascomycetes.
Erysiphe, Peziza, Xylaria.

Basidiomycetes.
Ustilago, Puccinia, Agaricus, Lycoperdon.

LICHENS.

Bryophytes.
Riccia, Marchantia, Anthoceros, Mosses.

Pteridophytes.
Ferns, Marsilia, Lycopodium, Selaginella.

Gymnosperms.
Pinus, Cyas.

2. The external morphology of flowering plants.

3. The general principles of classification and the distinguishing characteristics of the following Natural Orders as used in the Flora of British India:—

Ranunculaceæ.
Anonaceæ.
Menispermaceæ
Nymphæaceæ.
Cruciferæ.
Capparideæ.
Caryophyllaceæ.
Guttiferæ.
Malvaceæ.
Sterculiaceæ.
Tilaceæ.
Geraniaceæ.
Rutaceæ.
Meliaceæ,
Papilionaceæ.
Cæsalpineæ.
Mimoseæ.
Rosaceæ.
Combretaceæ.
Myrtaceæ.
Lythraceæ.
Cucurbitaceæ.
Umbelliferæ.
Rubiaceæ.
Compositæ.
Sapotaceæ.
Oleaceæ.
Apocynaceæ,

Rhamneæ.
Sapindaceæ.
Anacardiaceæ.
Solanaceæ.
Scorphularineæ.
Acanthaceæ.
Labiatae.
Verbnaceæ.
Amarantaceæ.
Loranthaceæ.
Euphorbiaceæ.
Urticaceæ.
Piperaceæ.
Asclepiadeæ.
Boragineæ.
Convolvulaceæ.
Laurineæ.
Orchideæ.
Scitamineæ.
Amaryllideæ.
Liliaceæ.
Commelinaceæ.
Palmeæ.
Aroideæ.
Cyperaceæ.
Gramineæ

4. *Physiology.*

The chemical composition of the plant. Materials of plant food and their sources. The nature of soil and importance of its constituents and micro-organisms. Movements of water and gases. Assimilation of carbon and nitrogen. Transpiration and translocation of the assimilated products. Metabolism. Parasitism and other special modes of nutrition. Respiration. The influence of light, heat and gravity. Growth, movements and irritability in plants. Sexual reproduction and its significance. Vegetative reproduction. The phenomena of cross-fertilization. Variation, Heredity and Mendelism. Theories of Evolution and Origin of species.

5. *Histology.*

The structure and modes of the division of the cell, and the nature of its contents. The nature and mode of origin of plastids, cell sap and other cell contents. The physical and chemical properties of protoplasm and cell-wall. The origin, nature and development of plant tissues. Primary and Secondary tissues, and their distribution in the plant body.

Practical Work.

Candidates are expected to be able to make preparations illustrating the form and structure of any plant of the Groups or Orders mentioned in the syllabus and to describe them with sketches sufficient for their identification: to make dissections with the simple microscope of the floral parts of phanerogams, and to make drawings, construct floral diagrams and refer them to their Natural Orders; to describe in technical language plants belonging to any of the Orders or Groups specified in the syllabus.

At the practical examination each candidate must submit his laboratory note-books and a collection of named plants collected and preserved by himself.

II. As the subsidiary subject.

(1) The structure and life history of the following:--

Bacteria, Oscillaria, Chlamydomonas, Pandorina Eudorina, Pledorina, Volvox, Ulothrix, Oedogonium, Spirogyra, Ectocarpus, Polysiphonia, Nitella, Rhizopus, Peziza, Puccinia, Agaricus, Marchantia, Mosses, Selaginella, Fern, Cycas, Pine.

(2) External Morphology of Flowering plants.

(3) The general principles of classification and the characteristics of the following families:—

Anonaceæ, Nymphæceæ. Leguminosæ, Malvaceæ, Rutaceæ, Myrtaceæ, Cucurbitaceæ, Rubiaceæ, Compositæ, Apocynaceæ, Asclepiadaceæ, Convolvulaceæ, Solanaceæ, Acanthaceæ, Labiatæ, Amarantaceæ, Euphorbiaceæ, Urticaceæ, Liliaceæ, Amaryllideæ, Scitamineæ, Orchideæ, Palmae, Cyperaceæ, Gramineæ.

(4) Plant Physiology:—

Chemical composition of the plant, soil and its nature. Photosynthesis, Transpiration, Respiration, Metabolism, Heterotrophic Plants, Growth, Movements, Irritability, Reproduction (Sexual and Asexual), Cross and Self Fertilization, Variation, Heredity and Mendelism. Theories of Evolution and the Origin of Species.

(5) Histology:—

Cell structure and Cell division, plastids, Cell-saps, other Cell contents, the origin, nature and development of Plant-tissues. Primary and Secondary tissues and their distribution in the plant body.

B. Zoology. I.—As the main subject.

B. Zoology.

The Scope of Zoology.—The leading features in the structure, the most important points concerning the development, the affinities, and the general classification of the forms included in the following groups (except in rare cases, no knowledge of extinct forms will be required):—

Protozoa. Porifera. Cœlenterata. Platyhelmia. Nemertini. Nematoda. Acanthocephala. Chætognatha. Rotifera. Brachiopoda. Annelida. Phoronidæ. Polyzoa. Arthropoda. Mollusca. Echinodermata. Chordata.

A general acquaintance with the vertebrate fauna of South India.

The geographical distribution of the more interesting groups of the Chordata. Outlines of the theory of organic evolution. Evidences on which the theory is based.

Candidates will be required to examine, describe, identify, or otherwise deal with specimens and preparations illustrating points of zoological interest in connection with any of the preceding groups. They will, in addition, be expected to have a full practical knowledge of the structure, and will be required to make dissections and simple microscopic preparations of any of the following types:—

Amœba. Vorticella. Hydra. Earthworm. Leech. Prawn and Crab (external characters). Scorpion. Centipede (external characters). Cockroach. Fresh-water Mussel. Amphioxus (preparations and sections). Dogfish (skeleton). Frog. Pigeon. Hare.

Candidates may also be examined by *viva vice* questions.

II.—As the subsidiary subject.

SYLLABUS FOR ZOOLOGY SUBSIDIARY.

The scope of Zoology :—The leading features in the structure, the most important points concerning the development, and the affinities of the forms included in the following Phyla in general and of the following types in particular.

Students will not be expected to be familiar with characters of orders or other sub-groups not mentioned in the following scheme.

Protozoa—*Rhizopoda.* (Lobosa, Foraminifera, Heliozoa and Radiolaria.)

Mastigophora. (Flagellata)

Infusoria. (Ciliata)

Sporozoa.

Types—Amoeba, Euglena, Volvox, Paramoecium, Vorticella, Monocystis and Malarial Parasite.

Coelenterata—*Hydromedusæ.*—(Hydrida, Gymnoblastea, Anthomedusae, Calyptoblastea, Leptomedusae, Trachymedusae, Narcomedusae, Hydrocorallina and Siphonophora)

Scyphomedusae. (Stauromedusae, Coronata, Cubomedusae and Discomedusae).

Anthozoa. (Zoantharia and Alcyonaria)

Ctenophora.

Types—Hydra, Obelia, Aurelia, Sea Anemone and Hormiphora.

Ptatyhelminthes—Types—Taenia and Liver Fluke. (Fasciola).

Nemathelminthes—Type—Ascaris.

Annelida— Archiannelida
Chaetopoda (Polychaeta and Oligochaeta)
Hirudinea
Echiuroidea

Types—Nereis, Earthworm and Leech.

Arthropoda—*Crustacea.* (Entomostraca and Malacostraca) Types—Streptocephalus, Lepas, Sacculina, Prawn and Crab.

Onychophora—Peripatus.
Myriapoda (Centipedes and Millipedes)

Insecta. (Aptera, Orthoptera, Coleoptera, Neuroptera, Hymenoptera, Hemiptera, Diptera and Lepidoptera) Type—Cockroach.

Arachnida (Scorpions, Spiders and Kingcrab)

Type—Scorpion.

Mollusca—Pelecypoda

Gastropoda

Cephalopoda

Types—Mussel, Chiton, Pila (Ampullaria) and Sepia.

Echinodermata—Asteroidea.

Ophiuroidea.

Echinoidea.

Holothuroidea.

Crinoidea.

Types—Star fish, Brittle star, Sea-urchin, Sea-Cucumber and Feather Star.

CHORDATA.

Prochordates - Balanoglossus, Ascidia and Amphioxus.

Vertebrata—Pisces—Elasmobranchii.

Teleostomi.

Dipnoi.

Amphibia ... { Anura, Urodela, Gymnophiona.

Reptilia ... { Lacertilia, Ophidia, Chelonia, Crocodilia

	Aves	...	Archeornithes Neornithes--(Ratitae & Carinatae.
Mammalia	Prototheria.		
	Metatheria	..	Diprotondontia Polyprotodontia
	Eutheria	...	Edentata Sirenia Cetacea Proboscidea Ungulata Hyracoidea Rodentia Carnivora Insectivora Chiroptera Prosimiae Primates.

Types—Balanoglossus, Ascidian, Amphioxus, Dog fish, Bony fish, Frog, Calotes, Pigeon and Rabbit.

A general knowledge of the theory of Evolution.

Practical Work—

Candidates will be expected to have a practical knowledge of the structure and shall be required to make dissections and simple microscopic preparations of any of the following types :—

Earthworm, Nereis, Leech, Prawn (external features); Scorpion ; Cockroach ; Fresh-water Mussel, Ampullaria (Pila), Sepia, (external features), Frog (sympathetic system and 7th cranial nerve excepted) ; Pigeon, Rabbit (nerves excepted).

C. Geology

C. GEOLOGY. I—as a main subject.

I. Physiography.

II. Mineralogy and Crystallography.

III. Petrology.

IV. Structural and field Geology.

V. Stratigraphy and Palæontology.

I. PHYSIOGRAPHY.

An elementary course of lectures on the following:—

The earth as a planet, its general relations to the other members of the solar system; hypotheses as to the origin of the earth; form, size and density of the earth; its movements and their effects.

The Atmosphere—its composition, height, density, pressure, temperature, moisture and movements; weather; refraction, twilight and aurora-borealis.

The Hydrosphere—its composition, extent and distribution, depth, temperature and movements.

The Lithosphere—the chief constituents of the earth's crust, the general characters and mode of occurrence of igneous and sedimentary rocks. Condition of the interior of the earth.

Agents of Geological change.—The hypogene and epigene agents of geological change, manner and results of their action, especially as influencing earth-sculpture—the destruction, construction, and gradual evolution of the crust of the earth and of its surface features.

Fossils, the main conditions favourable for their formation and preservation and their value as interpreters of the past history of the earth.

Climates—their causes and distribution; glacial epochs.

Simple facts about the geographical and geological distribution of the chief types of plant and animal life. Antiquity of man. Views as to the age of the earth's crust.

II. MINERALOGY AND CRYSTALLOGRAPHY

Symmetry; lines, planes and axes of Symmetry; laws of Crystallography; the common holohedral, hemihedral and hemimorphic crystal forms and combinations under each of the six crystal systems; the more important types of twins and twinning; drawing of the more important crystal forms; systems of crystal notation, use of the contact Goniometer.

The principal physical properties of minerals which aid in the recognition of the various mineral species.

Isomorphism, paramorphism, pseudomorphism and dimorphism.

The chief characteristics of all the more abundant minerals, including both those which are of geological interest and those of commercial value, their modes of occurrence and uses.

The practical determination of the chief physical and chemical properties of the commoner ores and minerals, including the use of the blowpipe.

III. PETROLOGY.

The classification and distribution of rocks, and the composition, structure, texture, origin and mode of occurrence of all the more important types and their metamorphic and altered forms.

Contact and Regional Metamorphism.

The macroscopic and microscopic examination of rocks including the determination of the simpler optical characters of the chief rock forming minerals in parallel polarized light. Preparation of diagrams or sketches to represent features observed in rock sections under the microscope. Construction and use of a simple petrological microscope.

IV. STRUCTURAL AND FIELD GEOLOGY.

The more important lithological and structural features of rocks, their origin or formation: structure of mineral veins. Diagrammatic sketches of the above.

Construction and interpretation of geological maps and sections. Tracing of outcrops. Simple problems in structural geology.

V. STRATIGRAPHY AND PALÆONTOLOGY.

The chief petrological and palæontological characters of the main geological divisions and their Indian representatives and the probable physical conditions under which they were formed.

Fossils, their nature and preservation. The main groups of vegetable and animal life and their distribution in time.

The characters, classification and distribution of the more important types of fossils—especially Indian; identification and sketching of fossils; causes for the imperfection of the geological record; the general succession of life as revealed thereby and the general evidence furnished on support of evolution; principles of correlation; Homotaxis.

VI. PRACTICAL EXAMINATION

The knowledge of the candidate in accordance with the syllabus will be tested also by practical examination. *Viva voce* questions may be asked, acquaintance with field work is necessary.

II.—As the subsidiary subject.

Vide page 389.

D. Human Physiology.—**as the main subject. For** syllabus, *vide* page 741,

(iv) *Psychology, Ethics, and Logic or a Language.*

(iv). Psychology, Ethics, Logic or a Language

(1) Psychology, (2) Ethics, (3) A philosophical work to be prescribed annually in whole or in part, (4) Logic and the Theory of Knowledge, *or* a Language.

Text-books will be recommended from time to time as indicating the scope and standard of the examination, but the questions will not be confined to the books recommended.

The courses in the several languages shall be as follows:—

(1) Sanskrit.—Extracts from Indian Philosophical Literature.

(2) Persian *or* Arabic.—Extracts from the Philosophical Literature of those Languages.

(3) The Dravidian Languages, Oriya, Marathi, Urdu or Hebrew.

Books of the same standard of difficulty as those prescribed under Group (vi).

(4) Greek or Latin.—Portions of Plato or Aristotle *or* of the philosophical writings of Cicero, respectively

(5) French or German.—Selections from French or German Philosophical Literature.

In each language there shall be one paper of three hours' duration which shall contain questions on the subject-matter of the set books, a critical knowledge of which will be required, and also passages from those books for translation into English and explanation, together with unseen passages for translation into English from the selected Classical or Foreign language or original composition in the selected vernacular language.

(v) *History and Economics.*

Either A.

(v) History and Economics

(1) General Indian History, (2) Constitutional History of Great Britain and Ireland, (3) Outlines of European History, A.D. 476 to A.D. 1878, (4) Elements of Economics, (5) Political Science *or* a Language.

The courses in the several languages shall be as follows:—

(1) Sanskrit.—Extracts from the Vedic and Classical Literature illustrative of Indian History.

(2) Persian *or* Arabic.—Extracts from the Classical Literature illustrative of Muslim History.

(3) The Dravidian Languages, Oriya, Marathi, Urdu or Hebrew.

Books of the same standard of difficulty as those prescribed under Group (vi).

(4) Greek or Latin.—Prescribed portions of Greek or Roman Historians.

(5) French or German.—Prescribed portions of French or German Historians.

In each language there shall be one paper of three hours' duration which shall contain questions on the subject matter of the set books, a critical knowledge of which will be required, and also passages from those books for translation into English and explanation, together with unseen passages for translation into English from the selected Classical or Foreign language or original composition in the selected vernacular language.

or B.

(1) Economics—General,

(2) Economics—Special I.

(3) Economics—Special II,

(4) Modern History, according to a syllabus,

(5) Indian History, according to a syllabus.

(vi) *Languages other than English.*

(vi) Languages other than English

Candidates may select any one of the following languages, which shall be taken in conjunction with the related subject or related language specified for each language in the following lists:—

Selected Language	*Related Subject*
Sanskrit.	Early Indian History.
Persian or Arabic.	Early Muslim History.
Urdu.	Indian History—Muslim Period.
Tamil, Telugu, Malayalam or Kanarese.	Early South Indian History.
Oriya.	Early History of Orissa.
Greek or Latin.	A special period of Greek or Roman History respectively.
Marathi.	History of the Marathas.
German or French.	A special period of Modern European History.
Hebrew.	History of the Jews.
	Related Language.
Sanskrit, Arabic, Persian, Hebrew, Greek, Latin, German or French.	None.
Dravidian Languages, Marathi or Oriya, Urdu.	Sanskrit. Arabic or Persian.

The courses of study in the several languages shall be as follows:—

(1) (*a*) *Sanskrit* (*Main*).

Sanskrit Language and Literature. The course shall be:—

(a) Selections from the Early Period, including Vedic Mantras, Brahmanas, Aranyakas and Upanishads and the Sutra literature.

(b) Selections in prose and verse from the Later Period, including the Dharmasastras, and the Itihasa, Kavya and Nataka literature.

A knowledge of Alamkara-sastra will be required sufficient for the correct understanding of native commentators.

(c) Sanskrit Grammar treated historically and comparatively in accordance with a syllabus.

(d) Translation from and into Sanskrit.

(e) General History of Sanskrit Literature.

(f) Early Indian History.

In the examination there shall be two papers, each of three hours' duration in subject (b) and one paper of three hours' duration in each of other subjects, except Translation which will form part of the papers set on (a) and (b) above.

(b) *Sanskrit (Subsidiary)*.

The course shall consist of the study of one drama of the classical period and portions of one Kavya. In the examination there shall be one paper of three hours' duration which shall include pieces for translation from Sanskrit into the main language.

(2) *Urdu*.

The course shall consist of :—

(a) Prose books from different periods, including at least one modern work.

(b) Poetry books from different periods, including at least one modern work.

(c) Translation from prose and poetry books other than the set books, translation from English into Urdu to be made in an approved modern style.

(d) History of Language and Literature.

(e) Indian History—Muslim Period, *or* Arabic or Persian.

(3) (*a*) *Arabic or Persian* (*Main*).

The course shall consist of:—

(*a*) Prose books selected from different periods.

(*b*) Poetry books selected from different periods.

(*c*) Translation from prose books other than the set books: translation from the set poetry books and from English into Arabic *or* Persian Prose.

(*d*) History of Language and Literature with special reference to the set books.

(*e*) A selected period of early Muslim History.

The periods of History for Persian or Arabic may be one or other of the following:—

1. The four first Khalifas and the Umayyad Khalifate, excluding Africa and Spain.
2. The Abbasid Khalifate, excluding Africa and Spain and the wars of the Crusades.
3. The Muslim conquest of Egypt and Northern Africa until the fall of the Abbasid Khalifate and excluding the wars of the Crusades.
4. The Arab conquest of and rule in Spain.
5. The wars of the Crusades.

(*b*) *Arabic or Persian* (*Subsidiary*).

The course shall consist of the study of selected pieces from one poet of the classical period and selected portions from the works of one standard prose writer. There shall be one paper in the examination of three hours' duration which shall include pieces for translation from Arabic or Persian into the main language.

(4) *Tamil, Telugu, Kanarese or Malayalam.*

The course shall be:—

(*a*) The study of selections representative of the several periods of the literature of the selected language including one or more inscriptions.

(*b*) The history of the literature with special reference to the set books.

(*c*) The elements of the Grammar, including the elements of the Prosody and Rhetoric of the language, and the history of the language as illustrated by the set books.

(*d*) The elements of the Comparative Grammar of the Dravidian Languages.

(*e*) Composition.

(*f*) Early South Indian History *or* Sanskrit.

(5) *Oriya or Marathi.*

The course shall be the same as for the Dravidian Languages, with the substitution of Gaurian Grammar for Dravidian Grammar, and of the Early History of Orissa or the History of the Marathas respectively for Early South Indian History.

(6) *Greek or Latin.*

The course shall consist of:—

(*a*) Prescribed portions of the writings of the more important Greek or Latin authors.

(*b*) Grammar of the language with reference to Indo-Germanic Grammar.

(*c*) Greek or Latin Prose composition and translation of unprepared passages.

(*d*) A general knowledge of Greek History to the death of Alexander, or of Roman History to the death of Trajan, with a more minute knowledge of some prescribed period,

(*e*) A general knowledge of Greek or Roman Literature with a more minute knowledge of the authors of the prescribed books.

(7) *French or German.*

The course shall consist of:—

(*a*) The study of set books representative of various periods of French or German literature.

(*b*) The History of French or German literature with special reference to the set books.

(*c*) The history of the French or German language.

(*d*) Translation from French or German into English, and of English into French or German.

(*e*) Composition.

(*f*) A period of European History with special reference to French or German History.

In the examination the subjects for composition shall be taken from the set books or shall relate to the periods of French or German literary or political history studied in the course. In the translation paper, the passages set for translation from French or German into English shall be specimens of modern French or German, not taken from the set books.

(8) *Hebrew.*

The course shall consist of:—

(*a*) Set books.

(*b*) Grammar and translation from and into Hebrew.

(*c*) History of the Language and the Literature.

(*d*) A selected period or periods of the History of the Jews.

6. A candidate shall be declared to have passed the examination in English if he obtains not less than thirty-five per cent. of the total number of marks. A candidate shall be declared to have passed in an optional group if he obtains not less than thirty-five per cent. of the total marks, and not less than thirty per cent. in each division of the examination. All other candidates shall be deemed to have failed in the examination. The divisions shall be as follows:—

Marks qualifying for a pass

Divisions of the examination

Group (i) (*a*) Pure Mathematics, (*b*) Applied Mathematics.

Group (ii) (*a*) The written examination in the main subject, (*b*) the practical examination in the main subject, (*c*) The subsidiary subject.

Group (iii) (*a*) The written examination in the main subject, (*b*) The practical examination in the main subject, (*c*) The subsidiary subject.

Group (iv) (*a*) Psychology and special subjects, (*b*) Ethics and Logic *or* a Language.

Group (v) A. (*a*) Indian, European and Constitutional History, (*b*) Economics and Political Science *or* a language.

Group (v) B. (*a*) Economics, (*b*) History.

Group (vi) (*a*) Selected language, (*b*) Related subject or Language.

There shall be separate lists for the English language part and for each of the optional groups. Successful candidates obtaining not less than sixty per cent. of the total marks in English or in an optional group shall be placed in the first class. Successful candidates obtaining less than sixty per cent. and not less than fifty per cent. shall be placed in the second class. Successful candidates obtaining less than fifty per cent. shall be placed in the third class.

Classification of successful candidates

SYLLABUS

B.A. DEGREE EXAMINATION.

Practical Physics for Group (i) (Mathematics)

The following scheme is intended to indicate the nature and extent of the course of instruction in Practical Physics for candidates in Group (i) B.A. Degree:—

(1) Application of the method of least squares to the treatment of a series of observations; probable error.

(2) Observation of damped oscillations: logarithmic decrement.

(3) Composition of simple harmonic motions of different phases, amplitudes or periods, in the same or different directions.

(4) Calibration of a glass tube.

(5) Comparison of aneroid and standard barometers under different conditions of temperature and pressure.

(6) Surface tension.

(7) Viscosity of a liquid by flow in a narrow tube.

(8) Stress-train curves: Young's modulus: elastic limit

(9) Determination of moments of inertia.

(10) Determination of g. compound pendulum.

(11) The balance: Zero of unloaded balance: curve of sensitiveness: ratio of arms: calibration of a set of weights.

(12) Determination of vapour pressures: use of empirical formulæ.

(13) Law of cooling curves.

(14) Specific heat by the method of mixtures with radiation correction.

(15) Ratio of the specific heats of a gas.

(16) Determination of thermal conductivity.

(17) Determination of J.

NATURAL SCIENCE

For syllabuses in Botany, Zoology and Geology—*Vide* pages 721—731.

SYLLABUS OF THE COURSE IN PHYSIOLOGY FOR GROUP III-D.

D. PHYSIOLOGY. Definition and Scope of Physiology. Problem of Physiology. Living and dead matter. The cell. Protoplasm and its properties. Histology of the principal tissues and organs of the body. Chemical composition of the body. Muscle Irritability. Contractility. Muscle-nerve preparation. Muscular contraction. Changes during contraction. Nature of muscular and nervous action. Electrotonus. Circulatory system and circulation. Regulation of the vascular mechanism. Vasomotor action. Inflammation. Composition of blood. Coagulation of the blood. Lymphatic system. Nature and movements of lymph. Secreting glands. Food-stuffs. Nature, properties and secretion of saliva, gastric juice, bile, pancreatic juice, and succus entericus. Mechanism of digestion. Changes which food undergoes in the alimentary canal. Absorption. Liver and its work. The ductless glands and what is known about their functions. Respiration. Respiratory mechanism. Nervous mechanism of respiration. Changes of the air during respiration. Changes in the blood. Respiration of the tissues. Asphyxia. Effect of respiration on the circulation. Special respiratory movements. Cutaneous respiration. Composition, character and secretion of urine. Urinary apparatus. Micturition. Nature and composition of sweat. Mechanism of the secretion of sweat. General metabolism. Statistics of nutrition Diet. Energy of the body. Temperature of the body. Production and regulation of animal heat. Nerves and nerve-functions. Trophic nerves. Columns and tracts of the spinal cord; evidence for their existence. Functions of the cord. Reflex action. Structure of the brain. Disposition and connections of the grey and white matter of the brain. Functions of the brain. Removal of the cerebrum. Localization of cerebral functions. Cerebellum. Machinery of co-ordinated movements. Sensations. Structure of the eye. The eye as an optical instrument. Accommodation. Imperfections in the visual apparatus. Features of visual sensation. Colour sensation. Binocular vision. Visual judgments. Structure of the ear. Auditory sensation. Taste and smell. Cutaneous sensations. Muscular sense. Mechanism of locomotion, voice and speech. Impregnation. Outlines of the development of the embryo and its envelopes. Nutrition of the embryo. Birth. Lactation. Phases of life. Death.

Practical Examination.—Candidates must be prepared to answer *viva voce* questions, to examine, stain, mount and describe sections, and to identify microscopic preparations. They must show their practical acquaintance with the chemistry of albumin and its allies, milk, glycogen, the digestive juices (and their action on food), blood and urine. They will be expected to be familiar with the use of the most important apparatus employed in studying the physiology of muscle, nerve, the circulatory and respiratory systems and the organs of sense.

Taken as a subsidiary subject, Physiology shall include a knowledge of the essential facts of the structure and functions of the body as indicated below:—

Food, digestion and absorption. Nature, composition and functions of the blood. Circulation. Vasomotor action. Lymph. Respiration and the respiratory mechanism. Secretion. Work of the liver. Sweat and its formation. Work of the kidneys. Temperature of the body and its maintenance. Various modes in which muscles give rise to movement. Functions of the principal parts of the central nervous system. Functions of nerves. Reflex action. General account of the sensory organs.

In the practical examination candidates will be expected to answer *viva voce* questions, and to identify microscopical preparations. They must show their practical acquaintance with the chemistry of albumin, milk, and urine, and with the action of the digestive ferments on food. They may be required to take tracings of a simple muscular contraction, and of a contracting heart.

HISTORY AND ECONOMICS

SYLLABUS IN MODERN HISTORY FOR GROUP (V-B).

Modern History, 1500—1878

In addition to a knowledge of the development of the European State System as set forth in the Syllabus, a knowledge of the origin and working of the constitutions of the chief countries will be required, *viz.*, of England and Switzerland and, after 1870, of France, Germany, Italy and the British Commonwealth. Books recommended for the study of the constitutions:—

For England, Switzerland, France, Germany and Italy:—

(1) Ogg: "Government of Europe" or, Lowell: "Greater European Governments."

(2) Herman Finnes—"Foreign Governments at work" (World of To-day Series, Clarendon Press).

For the British Commonwealth.

(1) H. Duncan Hall—"The British Commonwealth of Nations."

(2) A. B. Keith: "Dominion Home Rule in Practice." (World of To-day Series, Clarendon Press.)

(1) *Introduction*—

Features of Mediaeval Europe:—Papacy—Empire—Feudalism their decay. Decline of Byzantine Empire.

The New Age:—Renaissance—Reformation—Maritime discoveries—Transfer of political power to Atlantic States—Spain—Portugal—France—Holland—England.

(2) *Sixteenth century*—

Supremacy of Spain under the Hapsburgs.

The development of the Hapsburg power and its extent under Charles V and Philip II. Its challenge to Europe:—

(*a*) France, (*b*) Germany, (*c*) Netherlands, (*d*) England, (*e*) Turkey.

The relation of the Reformation and Counter-Reformation to the struggle.

(3) *Seventeenth century*.—

(A) Ascendancy of France.

(i) Henry IV—Richelieu—Mazarin.

Opportunity afforded by religious struggle in Germany.

(ii) France under Louis XIV—His system of Alliances—

Sweden—Turkey—England. The challenge to Europe:—

(*a*) Holland, (*b*) Spain, (*c*) The Empire, (*d*) England

(B) Northern Europe.

Ascendancy of Sweden under House of Vasa. Her challenge to North Europe:—(*a*) Denmark, (*b*) The Empire, (*c*) Poland, (*d*) Russia.

(C) South-Eastern Europe.

Revival of Turkish Power—its relation to Western politics—its challenge to Austria and Poland. Position of Turkey at close of century.

(4) *Eighteenth century*—

The rise of England—Prussia—Russia.

(*A*) ***England***—**Her position in Europe and overseas after Treaty of Utretcht. Expansion and challenge to (*a*) France and Spain (*b*) Holland.**

(*B*) *Prussia*.—**Her position under Frederick II. His challenge to Austria—and German Princes—Relations with France—Russia—England.**

(*C*) Russia.—Her position in Baltic after Treaty of Nystadt. Her challange to (*a*) Germany, (*b*) Poland, (*c*) Turkey.

(5) ***French Revolution***—

(*A*) Its causes, characteristics and course.—Its challenge to Europe:—

(*a*) The Empire (Netherlands, Germany and Italy), (*b*) England.

(*B*) The Napoleonic Empire.

Its rise and development—its challenge to Europe:—

(*a*) The Empire, (*b*) England, (*c*) Russia, (*d*) Spain. (*e*) Portugal. Its overthrow—Congress of Vienna.

(6) ***Nineteenth century***—

The challenge of Vienna to Liberalism and Nationality. Influence of Metternich.

(*A*) *Liberal movements*—

(i) 1815—1825. Germany—Spain—Italy. Suppression by Quadruple Alliance.

(ii) 1830. Revolution in France and its consequences in Belgium—Poland—Germany—Italy—Spain—England.

(iii) 1848. Revolution in France and its consequences in Austria—Hungary—Italy—Prussia—England—Collapse and re-action. Fall of Metternich—establishment of the Second Empire in France.

(*B*) *National movements*—

(i) Union of Italy.

(ii) Unification of Germany and the establishment of the German Empire—the French Republic.

(*C*) ***The Eastern Question***—

Russia's challenge to Turkey—Anglo-French support to Turkey.

(i) War of Greek Independence.

(ii) Turko-Egyptian War.

(iii) Crimean War.

(iv) Balkan Risings and Russo-Turkish War. Congress at Berlin.

Books recommended for study—

1. Lowell's Greater European Governments.
2. Keith's Dominion Home Rule in Practice.
3. Finner-Foreign Government at Work (World of To-day series, Oxford).
4. (*a*) Ogg—The Governments of Europe.
   (*b*) Keith—The Constitution, Administration and Laws of the Empire.
   (*c*) Bryce—Modern Democracies.

Sanskrit

(7) SYLLABUS FOR SANSKRIT GRAMMAR FOR GROUP (vi)—LANGUAGES OTHER THAN ENGLISH

The same as for B.A. Group (v) under the new Regulations. (Vide Appendix III).

(8) *Syllabus for the Comparative Grammar of the Dravidian Languages for Group (vi).*

The same as for B.A. Group (v) under the new Regulations. (Vide Appendix III).

(9) *Related Subject :—The Dravidian Languages : Syllabus for Early South Indian History.*

The same as for B.A Group (v) under the New Regulations (Vide Appendix III).

(10) *Syllabus for the History of the respective Dravidian Languages—Tamil, Telugu, Kanarese and Malayalam.*

The same as for B.A. Group (v) under the new Regulations. (Vide Appendix III).

Text-books for the Examinations of 1935.

ENGLISH.

1935.

Shakespeare.—

As You Like It.

Othello.

Poetry.—

The same as for the New Regulations, 1935. (*Vide* page 426).

17th and 18th Century Prose.—

Johnson: Preface to Shakespeare: Life of Pope.

Gibbon: Autobiography.

19th Century Prose.

De Quincey: Essays, (The Wallet Library, Blackie & Son, omitting "Rhetoric", pp. 115—178).

Twentieth Century Essays: (Archbold), omitting Essay X.

Non-detailed.—

The same as for New Regulations, 1935. (*Vide* page 426).

PHILOSOPHY.

(ii) Psychology: Pillsbury's Fundamentals of Psychology. Part III and Bosanquet's Essentials of Logic.

(ii) Psychology: Pillsbury's Fundamentals of Psychology.

(iii) Ethics: Dewey and Tuft's Ethics.

(iv) Philosophical Work prescribed: Berkeley's Principles of Human knowledge.

HISTORY

THE DRAVIDIAN LANGUAGES

GROUP (vi)

Related Subjects.

Early South Indian History, the part prescribed in Chapters I to XVIII of the Syllabus, *vide* Appendix III.

SANSKRIT.

(Main and Subsidiary.)

GROUP (iv)

Kṛṣṇa-Miśra : Prabōdhacandrōdaya.

Cchāndōgyōpaniṣad—Adhyāya VII.

GROUP (v)

A. A. Macdonell : Vēdic Reader, I to VIII hymns.

Kālidāsa : Raghuvamśa, Cantos IV and VI.

Madhurāvijayam, by Gangādevi, Cantos 1 to 4 (The Agent Government Sanskrit Publications, Chalai, Trivandrum.)

GROUP (vi)

(a) A. A. Macdonell : Vēdic Reader, the following Selections:—

Agni, I—I.
Savitṛ, I—35.
Maruts, I—85.
Viṣṇu, I—154.
Funeral Hymn, X—14.
Pitaras, X—15.
Gambler, X—34.
Yama, X—135.

Aitarēya-brāhmaṇa, VII—iii and iv.

Gautama Dharma Sūtra Text only,—Praśna I—Corresponding to Chap : I to IX Bibliotheca Sanskrita (Government Press, Mysore, or Anandasrama Press, Poona.)

Kaṭhopaniṣad—first Adhyāya.

(b) Bhavabhūti-Uttararāmacarita

Baṭṭanārāyana's Veṇisamhāra.

Bāṇa : Harṣacarita, Ucchvāsa III—(Nirnaya Sagara Press, Bombay).

Patañjali : Mahābhasya I, i, i.

Mahābhārata, Śāntiparva—Adhyāyas 177 to 182 (Madhva Vilas Book Depôt, Kumbakonam).

Nīlakaṇṭha Vijaya by Nīlakaṇṭha Dīksita, Ucchvāsa I *only* (The Proprietor, Balamanorama Press, Mylapore).

(c) History of Sanskrit Literature :—

Dr. Macdonell's "History of Sanskrit Literature" and "India's Past" are recommended for study.

Keith's classical Sanskrit Literature—Heritage of India Series.

RELATED LANGUAGE

Bhavabhūti-Uttararāmacarita.

Raghuvamśa, Cantos IV and VI.

Related Subject.

The same as for 1935 under the New Regulations.

MARATHI.

GROUP (iv).

Poetry—

Rasataranginl by S. V. Pendse, B.A., etc., pages 398—456.

Drama—

Sakuntalá Nátak by Laxman Shastri Lele.

Prose—

Vyákhyáne by Sir N. G. Chandávarkar

GROUP (v).

The same as for Group (iv)

GROUP (vi).

Poetry—

Rasatarangini by S. V. Pendse, B.A., etc., pages 398—456.

Krishna Vijaya by Moropant : (Uttarárdha) Chapters 50—57.

Drama—

Sakuntalá by Laxman Shastri Lele.

Prose—

Vyákhyáne by Sir N. G. Chandávarkar.

Life of Thorale Shahu Maháráj by M. R. Chitnis.

Nibandha Sangraha—Grantha Dusará—Sri Laxminarayan Press, Bombay, pages 1—258.

Related Subject.

The same as those for 1935 under the New Regulations.

ORIYA.

GROUP (iv)

Kiskindhyā Kānda—Rāmāyana, by Krṣna Caran Patnaik (Printing Company, Cuttack).

Mukunda Deb Nātaka, by Godavareesa Misra (Students Stores, Satyabadi)

Prabhāta, by Chandrasēkhara Nanda. } Trading Company, Cuttack.
Bhāgavata Ekādasaskandha by Jagannatha Das. } Trading Company, Cuttack.
Raghuvamsa (18th Sarga), by Rajakisore Mahanty. } Trading Company, Cuttack.

GROUP (v)

Kōnārka—Chapters 1 to 7, by Kripasindhu Misra. History of Gumsur, by Tarini Charan Ratho. Vidagdha Cintāmani (Canto 78, pp. 215—218), by Abhimanyu Samanta Simhāra.	Trading Company, Cuttack.

GROUP (vi)

The same as for Part III—Group (v), B.A. (New), 1935. The text-books under the Related Subjects are also the same for both the Examinations.

RELATED SUBJECTS.

The same as those for 1935 under the New Regulations.

LATIN.

GROUP (iv).

Cicero: De Officiis.

GROUP (v).

Tacitus: Agricola and Germania.

GROUP (vi).

Cicero: De Officiis.

Tacitus: Agricola and Germania.

Virgil: Aeneid II.

Horace: Odes III, 1-20.

Juvenal: Satires VII and X.

Livy: History V.

FRENCH.

Group (iv)—	La Bruyére :	Les Caractéres.
„ (v)—	De Tocqueville :	L'Ancien Régime.
„ (vi)—	La Bruyére :	Les Caractéres.
	De Tocqueville :	L'Ancien Régime.
	Corneille :	Le Cid.
	Moliére :	Le Malade Imaginaire.
	Faguet :	Ce que disent les Livres.
	Hémond :	Maria Chapdelaine.
	The Oxford Book of French Verse.	

FOR B.A. DEGREE EXAMINATION, 1935.

ARABIC.

GROUPS (iv) AND (v).

GROUP (iv)

Asrârush-Shari 'at-il-Islâmiah.

Jamâlul-'Alum.

Diwân-i-'Umar b, al-Fârid-First four Qasidas.

GROUP (v)

Târikhul-Umamil-Islamiah by Alkhizari.

Al-M' 'arif by Ibni Qutaybah.

Diwani Hassân b. Thâbit.

GROUP (vi).

The same as for 1935 under the New Regulations for Part III—Group (v).

PERSIAN.

GROUP (iv)

Asrâri Khudi.

Mathnavi Maulana Rûm, First half Dafter.

Siyâsat Namah

GROUP (v)

Irân Nâmeh, Part I excluding old Persian.

Shâh Nâmeh—Sohrab-Rustum—Siyaush and Nushyarawan

GROUP (vi).

The same as for 1935 under the New Regulations for PART III—GROUP (v).

URDU.

GROUP (iv).

Hikmat-i-' Amali, first 300 pages

Ma'arijuddin.

Diwan-i-Ghâlib.

GROUP (v)

Tárikhud Dawlatayn by Niyàz.
Alfàrūq.
Qasàì'-d-i Zauq.

GROUP (vi).

The same as for 1935 under the New Regulations for
Part III—Group (v).

TAMIL.

GROUPS (iv) AND (v).

Selections published by the University:—

Part I.

Purananuru, Stanzas 63—312 (pp. 111—126).
புறநானூறு-பாட்டுகள் 63-312-(பக்கங்கள் 111-126)

Thirukkural :—

Payanilacollamai.
பயனில் சொல்லாமை

Thivinaiyacham
தீவினையச்சம்

Oppuravarital.
ஒப்புறவறிதல்

Igai.
ஈகை

Pugal.
புகழ்

Amaichchu.
அமைச்சு

Cholvanmai.
சொழுவன்மை

Vinaittuimai.
வினைத்தூய்மை

Vinaithitpam.
வினைத்திட்பம்

Mannaraichernthozhugal.
மன்னரைச் சேர்ந்தொழுகுதல்

Part II.—Kambaramayanam—Aranyakandam.
கம்பராமாயணம்—ஆரணிய காண்டம்

Prose—

Appar Charitram—K. Subrahmanya Pillai, M.A., M.L., (Saiva Siddhanta Publishing Co., Madras.)

அப்பர் சரித்திரம்

Nakkerar—N. M. Venkataswami Nattar.

நக்கீரர்

GROUP (vi).

The same as for 1935 under the New Regulations for Part III—Group (v).—(*Vide* page 437).

TELUGU.

GROUP (iv).

Advaitamruta Saramu by Sreshtaluri Krishnaswamiah.

GROUP (v).

Angleya Rajyanga Nirmana Carita by Gottetti Kanakaraju Pantulu.

GROUP (vi).

Poetry—

i. Parijatapaharanamu by Mukku Timmanna, cantos 2, 3 and 4. (V. R. Sastrulu & Sons, Madras).

ii. Vasu Charitramu by Ramaraja Bhushana, canto 3. (V. R. Sastrulu & Sons, Madras),

iii. Yayati Charitramu by Ponnaganti Telaganaryudu, canto 2. (V. R. Sastrulu & Sons, Madras).

iv. Harischandra Nalopakyanamu, canto 3. (V. R. Sastrulu & Sons, Madras).

Drama—

i. Venisamharamu by Vaddadi Subbaraya Kavi. (Author, Rajahmundry).

ii. Sri Ramuni Vanavasa Natakamu by Janamanchi Seshadri Sarma. (Author, Cuddapah).

Grammar, Prosody and Poetics—

Syllabus will be prescribed later.

Books recommended for study—

(*a*) *Literary Criticism—*

Vasu Charitra Vimarasanamu by V. Chinna Seetarama Sastrulu. (V. R. Sastrulu & Sons, Madras).

(*b*) *History of Literature—*

i. Andhra Vangmaya Charitramu by Vanguri Subba Rao, (Kamalakutir, Narsapur, W. Godavari).

ii. Lives of the Poets, by Veeresalingam Pantulu. (Hitakarani Samaj, Rajahmundry).

iii. Andhra Kavi Jeevithamulu by Gurazada Sree Râmamurti. (V. R. Sastrulu & Sons, Madras).

(*c*) *History of Language*—(as per syllabus, *vide* pages 408—410) Bhashotpathi Kramamu by Korada Ramakrishnayya.

(*d*) *Grammar, Prosody and Poetics—*

i. Margopadesika by V. Chinna Seetarama Sastri.

ii. Balavyakaranamu—In the light of Gupthartha Prakasika.

iii. Proudha Vyakaranamu.

iv. Appa Kaviyamu, 3rd Canto. (V. R. Sastrulu & Sons, Madras).

v. Kavyalankara Choodamani, cantos 1 to 8. (V. Venkataroyar, Mallekeswarar Koil Street, G. T., Madras).

vi. Dasaroopakamu, by Malladi Suryanarayana Sastrulu, (Government Arts College, Rajahmundry).

RELATED SUBJECT.

Vide page 746.

KANARESE.

Groups (iv) & (v).

(i) Selections published by the University—Volume II, Chandraprabha Purana (pp. 103 to 146).

(ii) Ramashwamedha (modernized), Part I, by M. Shankara Bhatta (Bala Sahitya Mandala, Mangalore).

(iii) Viddyullata by N. Tirumalamma (Sati Hitaishini Granthamala Office, Nanjangud).

(iv) Sakuntala Nataka by Basappa Sastri (M. S. Rao & Co., Avenue Road, Bangalore City).

(v) Kavi Charitre by Rao Bahadur R. Narasimhachar, M.A., Volume II, Introduction and Poets of the 16th Century (Author, Malleshwaram, Bangalore).

GROUP (vi)

(i) All the books prescribed for groups (iv & v).

(ii) Sasana Padayamanjari by Rao Bahadur R. Narasimhachar, M.A., (Malleshwaram, Bangalore).

(iii) Apratima vira charite by Tirumalarya (Kavya Kalanidhi Office, Mysore).

(iv) Sringara Ratnakara by Kavi Kama (Kavya Kalanidhi Office, Mysore).

(v) Sabdamani Darpana by Kesiraja (B. E. M. Book Depot, Mangalore).

(vi) Chhandassu by Nagavarma (B. E. M. Book Depot, Mangalore).

(vii) Primrosa Vijaya by S. G. Govindaraja Ayyangar (M. S. Rao & Co., Avenue Road, Bangalore).

MALAYALAM.

GROUPS (iv) AND (v)

Poetry.—

1. Bhishma Parvam—Maha Bharatam by Ezhuthachan—Selections published by the University (B.A.), Part I, Vol. II.
2. Kirmmeeravadham—Kathakali by Kottayath Thampuran.
3. Umākeralam—7 and 8 Sargams. By Ullur S. Parameswara Ayyar, M.A. (B. V. Book Depot, Trivandrum).

Drama—

Uthara Rāma Charitham by C. Chathukutty Mannadiar (Saraswati Vilasam Book Depot, Trichur).

Prose—

1. Mārthanda Varma by C. V. Raman Pillai, B.A., (B. V. Book Depot, Trivandrum).

2. Sarāda—Part I by O. Chandu Menon, Published by K. Madhava Menon, B.A., B.L., Vakil, Chalapuram, Calicut.

GROUP (vi).

The same texts as those for Groups (iv) and (v), together with the following additional books:—

1. Ramacharitam—5 to 9 Patalams, both inclusive (B. V. Book Depot, Trivandrum).

2. Kannassa Rāmāyanam—Balakandam. (The edition published by K. Parameswaran Pillai, M.A., Nantiyar Veetu, Thampanoor, Trivandrum).

3. Krishnagātha—Soubhadrika Katha (Mangalodayam Press, Trichur).

APPENDIX XVII.

DEGREE OF BACHELOR OF ARTS (HONOURS.)

Regulations in force prior to 1931, which will be in force for the Examinations of 1935.

A. Courses of Study.

Courses of study

1. For the B.A. (Honours) degree the course shall extend over a period of not less than three years, each consisting of three terms ordinarily consecutive, and shall comprise instruction in:—

I. English during the first year (preliminary Examination).

II. One of the following branches of knowledge during the three years:—

i. Mathematics.

ii. Philosophy.

iii. History, Economics and Politics.

iv. Two languages, other than English one being a classical language already studied in the Intermediate course; provided however that this restriction shall not apply if one of the two languages selected is Sanskrit and the other an Indian Vernacular.

v. English Language and Literature.

vi. Sanskrit Language and Literature.

vii. Arabic Language and Literature.

*For the regulations relating to the courses of study and examinations in Physical and Natural Sciences for the B.A. (Honours) Degree Examination, which remain in force till the year in which the first examination is held for the Degree of Bachelor of Science (Honours) in the corresponding Branches ii to vi. *see* Appendix XVIII. The numbering of the Branches shall, till then, continue for purposes of examination to remain the same as in the Calendar for 1918.

B. Examinations.

Examinations

2. (*a*) No candidate shall be eligible for the B.A. (Honours) degree until he has passed an examination in one of the branches of knowledge contained in the courses of study.

(*b*) No candidate, other than those hereafter exempted, shall be admitted to the final examination in Honours unless he has passed a preliminary examination.

Preliminary Examination

This preliminary examination shall be, in the case of candidates, other than those who have selected Branch v of the Honours course, the examination in English for the B.A. degree in (1) Composition, (2) Nineteenth Century Prose. In the case of candidates, who have selected Branch v the preliminary examination shall be in (1) Composition as above, (2) The History of England treated in relation to the History of English Language and Literature.

There shall be one paper in English History which shall consist exclusively of subjects for short essays, and of these the paper shall contain a larger number than the candidate is permitted to attempt.

Marks qualifying for a pass

A candidate shall be declared to have passed the preliminary examination if he obtains not less than forty per cent. of the total marks in the two papers taken together. All other candidates shall be deemed to have failed in the examination. Successful candidates obtaining not less than sixty per cent. of the total marks shall be declared to have passed with distinction.

Admission to Preliminary Examination

(*c*) No candidate shall be admitted to the preliminary examination unless he has passed the Intermediate Examination in Arts and Science in this University or an examination in some other University recognized by the Syndicate as equivalent thereto.

B.A.'s should undergo 2 years' course at college

3. A candidate for the B.A. (Honours) degree who has passed the B.A. Degree Examination shall be permitted to appear for the B.A. (Honours) Degree Examination after a two years' course in a constituent or an

affiliated college provided he has passed the B.A. Degree Examination in the subjects for which he desires to appear. He shall be exempted from passing the preliminary examination.

Time limit for appearance at Final Examination

4. A candidate for the B.A. (Honours) degree shall appear for the final examination in Honours not later than the end of the fourth year after he has passed the Intermediate Examination or not later than the month of March following the end of the fourth year in the case of candidates declared to have passed in September.

Permitted to appear only once

5. No candidate shall be permitted to undergo the complete final examination in Honours more than once.

Candidates for Honours recommended for B.A. degree

6. In the event of a candidate for the B.A. (Honours) degree failing to satisfy the Examiners he may be recommended by them for the B.A. degree provided that he obtains not less than 33⅓ per cent. of the total marks and not less than twenty-five per cent. in each division of examination.

7. A candidate qualifying for the B.A. Degree under the preceding Regulation of this Chapter shall be permitted to appear for the M.A. Degree Examination in the same subject in any subsequent year without the production of further certificates of attendance.

Candidates failing in Honours may appear for B.A. privately

8. A candidate not already eligible for the B.A. degree, who, having failed completely in the B.A. (Honours) Degree Examination, desires to appear for the B.A. Degree Examination, shall be allowed to do so without the production of a further certificate of attendance in an affiliated college.

Subjects for examination

9. The courses in each Optional Branch of knowledge shall be as follows :—

(i) *Mathematics.*

A candidate shall be required to have a sound knowledge of—

i. Mathematics

(*a*) Pure Mathematics:

1. Pure Geometry including Projective Geometry.
2. Algebra and Theory of Equations.
3. Plane Trigonometry.
4. Differential and Integral Calculus including Reimann integration, Cauchy's theorem on Contour integration and Fourier's series.
5. Elementary Differential Equations.
6. Co-ordinate Geometry of two dimensions.
7. Solid Geometry—the line, plane, sphere and surfaces of the second degree.

(b) Applied Mathematics.

1. Statics excluding the theory of potentials.
2. Dynamics of a Particle.
3. Dynamics of a Rigid Body—motion in two dimensions.
4. Hydrostatics.
5. Astronomy, General and elementary spherical.

(*c*) Two of the following subjects at the option of the candidate :—

1. Geometry	...	A special subject
2. Algebra	...	do.
3. General Theory of Functions.	...	do.
4. Differential Equations		do.
5. Special Functions.	...	do,

A candidate shall give notice through his college, a year before the date of the examination, of the particular subjects he proposes to take.

Three papers shall be set in Pure Mathematics, three in Applied, and one in each of the optional subjects selected. Each paper shall be of three hours' duration and shall contain questions on the principles developed in the ordinary treatment of the subject as well as exercise of moderate difficulty arising therefrom.

(ii) *Philosophy*

A candidate shall be examined in—

ii. Mental and Moral Science

(1) Logic and Theory of knowledge, according to a syllabus.

(2) Either Psychology or Ethics, as the candidate may select, according to a syllabus *provided* that a candidate selecting Psychology must have attended, and made satisfactory progress under a course of instruction in Ethics equivalent to that required of candidates for the B.A. degree, and that a candidate selecting Ethics must have attended, and made satisfactory progress under a course of instruction in Psychology equivalent to that required of candidates for the B.A. degree.

(3) Outlines of European Philosophy according to a syllabus.

(4) Outlines of Indian Philosophy according to a syllabus.

(5) A prescribed modern work dealing constructively with the general problems of Philosophy.

(6) One of the following, according to the candidate's option:—

(*a*) One of the following schools of Indian Philosophy, to be studied historically and critically—

Adwaita Vedanta.	Sankhya.
Saiva Siddhanta.	Buddhism.
Visistadvaita.	Jainism.
Dvaita	

(*b*) A prescribed period of Ancient European Philosophy.

(*c*) A prescribed period of Modern European Philosophy.

(*d*) Political Philosophy.

(*e*) The Philosophy of Religion.

(*f*) Experimental Psychology.

The examination shall be conducted by means of written papers and an essay, with the addition, in the case of Experimental Psychology, of a practical examination.

A candidate shall give notice through his college, a year before the date of the examination, of the particular subjects he proposes to take.

(iii) *History, Economics and Politics.*

A candidate shall offer himself for examination in—

Either A.

iii. History, Economics and Politics

1. The History of India.
2. Constitutional History of Great Britain and Ireland.
3. Politics.
4. Economics.
5. A special subject } to be selected from a list prescribed from time to time
6. A special subject }

or B

(1) Economics I
(2) Economics II
(3) Politics
(4) Indian History, according to a syllabus

} a general survey of an advanced character.

(5) A special subject } to be selected from a list prescribed from time to time.
(6) A special subject }

He shall further be required to write an essay.

A candidate shall give notice through his college, a year before the date of the examination of the particular papers he proposes to take.

(iv) *Two Languages other than English.*

iv Two Languages other than English

The course in each language, the text-books prescribed and the examination therein shall be identical with those prescribed for the same language when offered as the selected language in Group (vi) of the B.A. Pass Course, the related subjects and languages being excluded ; provided that in the examination in each language in Branch iv (Honours) there shall be an additional paper of three hours' duration in Composition, and provided that a candidate for the B.A. (Honours) Degree in Branch iv who has passed the B.A. Degree Examination in Group (vi) shall be exempted from examination in his selected language of the B.A. Degree Examination, except in respect of the additional paper in Composition specially prescribed for Branch iv in this Regulation, and he shall be credited with the percentage of marks which he obtained in that language in the B.A. Degree Examination.

In cases where there is already provision for a paper in Composition under Group (vi) of the B.A. Pass Course, the additional paper in Composition under Branch iv (Honours) shall have special reference to certain set books of an advanced character that may be prescribed from time to time by the respective Boards of Studies concerned.

A candidate shall give notice through his college at least a year before the date of the examination of the languages in which he proposes to appear.

(v) *English Language and Literature.*

v. English Language and Literature.

There shall be both a written and a *Viva-voce* Examination. The written examination shall consist of three divisions. There shall be three papers in division (a), five papers in division (b), and two papers in division (c).

(a) The History of the English Language: Old and Middle English.

The History of the English Language shall include phonology, accidence and Syntax, also Germanic Philology so far as it bears on the English language. In Old and Middle English there shall be prescribed certain select texts. Ability to translate passages from Old and Middle English texts not prescribed shall be tested.

(b) The History of English Literature; Shakespeare; Modern English.

A candidate shall be required to show a knowledge of the whole course of the history of English literature. In Shakespeare a candidate, shall, in addition to the detailed study of the prescribed plays, be required to show a general knowledge of Shakespeare's works and of Shakespearean criticism. In modern English there shall be a number of set books in prose and poetry of the 15th, 16th, 17th, 18th and 19th centuries. A candidate shall be required to make a detailed study of the texts, marked with an asterisk and to show a general knowledge of the other prescribed texts.

(c) Special Period or subject.

A candidate shall be required to offer for examination a special period or subject selected by him from the following list:—

1. Literature of the 14th and 15th Centuries.
2. Elizabethan Literature (i.e., 1558-1637).
3. The Age of Milton and Dryden.
4. The Age of Pope and Johnson.

5. Wordsworth and his contemporaries.

6. Tennyson and his contemporaries.

A candidate shall be required to show a knowledge of the writings of the chief authors of the period selected. He shall also be examined on certain set books of the period selected.

7. Indo-Germanic Philology with special reference to Sanskrit.

8. Indo-Germanic Philology with special reference to Gothic.

A candidate selecting (7) shall be examined in certain set books in Sanskrit. A candidate offering (8) shall be examined in select Extracts of the literary remains of Gothic.

Books or groups of books set shall ordinarily continue the same for not less than five years. A candidate shall give notice through his college at least a year before the date of the Examination of the books or groups of books which he proposes to offer.

The *Viva voce* Examination shall be held as soon as possible after the Examiners have read the written answers of the candidates. No fixed proportion of marks shall be assigned to it: its purpose is to assist the examiners in placing the candidates.

(vi) *Sanskrit Language and Literature.*

Courses of Study—

vi. Sanskrit Language and Literature

1. Every candidate, who presents himself for this branch of the Honours B. A. Examination, shall be required to possess a sound knowledge of the principles of comparative philology and of the elements of comparative grammar with special reference to the important Indo-Germanic languages.

2. The course of studies shall further consist of one part fitted to equip the student with a general knowledge of the Sanskrit language and literature, and also of

another part fitted to enable him to acquire a special knowledge of any specified branch or branches of that literature as prescribed from time to time.

3. The course in the general part shall comprise—

(1) The history of the language ;

(2) The history of the literature in the language;

(3) Grammar, prosody, and poetics ;

(4) Prescribed text-books in poetry and prose, the selections being fairly representative of the various stages in the life of the Sanskrit language and literature ;

(5) Translation from Sanskrit into English and from English into Sanskrit.

4. The course in the special part shall comprise—

(1) Prescribed text-books selected from any specified branch or branches of Sanskrit literature ;

(2) A critical and comparative enquiry into the contents and value of the specified branch or branches of the literature taken up for study by the candidate.

Examination—

1. There shall be a paper on the principles of comparative philology and the elements of Indo-Germanic comparative grammer.

2. In addition to this there shall be in the general part—

(1) One paper on the history of the Sanskrit language and literature ;

(2) One paper on grammar, prosody and poetics ;

(3) One paper on the prescribed text-books, in which also there shall be questions on the grammar, structure and idiom of the language;

(4) One paper on translation from as well as into Sanskrit, the passages given for translation not being taken from any of the prescribed text-books ;

and in the special part there shall be—

(1) Three papers on the prescribed text-books ;

(2) An essay in English on a subject intimately related to the specified branch or branches of Sanskrit literature from which the text-books of the special part are prescribed.

(vii) *Arabic Language and Literature.*

Courses of Study—

vii. Arabic Language and Literature.

1. Every candidate, who presents himself for this branch of the Honours B.A. Examination, shall be required to possess a sound knowledge of the principles of comparative philology and of the elements of comparative grammar with special reference to the important Semitic languages.

2. The course of studies shall further consist of one part fitted to equip the student with a general knowledge of the Arabic language and literature, and also of another part fitted to enable him to acquire a special knowledge of any specified branch or branches of that literature as prescribed from time to time.

3. The course in the general part shall comprise—

(1) The history of the language ;

(2) The history of the literature in the language.

(3) Grammar, prosody and poetics ;

(4) Prescribed text-books in poetry and prose, the selections being fairly representative of the various stages in the life of the Arabic language and literature ;

(5) Translation from Arabic into English, and from English into Arabic.

4. The course in the special part shall comprise—

(1) Prescribed text books selected from any specified branch or branches of Arabic literature ;

(2) A critical and comparative inquiry into the contents and value of the specified branch or branches of the literature taken up for study by the candidate.

Examination—

1. There shall be a paper on the principles of comparative philology and the elements of Semitic comparative grammar.

2. In addition to this there shall be in the general part—

(1) One paper on the history of the Arabic language and literature ;

(2) One paper on grammar, prosody and poetics ;

(3) One paper on the prescribed text-books in which also there shall be questions on the grammar, structure and idiom of the language ;

(4) One paper on translation from as well as into Arabic, the passages given for translation not being taken from any of the prescribed text-books ;

and in the special part there shall be—

(1) Three papers on the prescribed text-books :

(2) An essay in English on a subject intimately related to the specified branch or branches of Arabic literature from which the text-books of the special part are prescribed.

Marks qualifying for a pass

10. A candidate shall be declared to have taken honours in one of the branches of knowledge for the B.A. (Honours) degree if he obtains not less than 40 per cent of the total marks and not less than 30 per cent in each division of the examination, provided that the passing minimum in each division of the examination in Branch (iv) shall be as specified hereunder. All other

candidates shall be deemed to have failed in the examination for Honours. The divisions shall be as follows:—

Divisions

Branch i. (*a*) Pure Mathematics, (*b*) Applied Mathematics, (*c*) Optional Subject.

Branch ii. (*a*) Logic, and Psychology or Ethics, (*b*) General Philosophy, Outlines of European Philosophy and Outlines of Indian Philosophy, (*c*) Optional Subject and Essay.

Branch iii. A. (*a*) Indian History and Constitutional History, (*b*) Politics and Economics, (*c*) Special Subjects.

B. (*a*) Economics (two papers), (*b*) Politics and Indian History, (*c*) Special Subjects.

Branch iv. (*a*) All the five papers in the first language, excluding the additional paper in Composition as in Regulation 9 of this Chapter.

(*b*) The additional paper in Composition in the first language, as in Regulation 9 of this Chapter.

(*c*) All the five papers in the second language excluding the additional paper in Composition as in Regulation 9 of this Chapter.

(*d*) The additional paper in Composition in the second language, as in Regulation 9 of this Chapter.

The passing minimum in each of the two divisions of the examination in an Indian vernacular shall be 40 per cent while in other cases it shall be 35 per cent in each of the two divisions.

Branch v. (*a*) English language, (*b*) English literature, (*c*) Special period or Subject.

Branches vi and vii. (*a*) Comparative Philology and Comparative Grammar, (*b*) General part, (*c*) Special part.

Classification of successful candidates

Candidates obtaining honours shall be ranked in the order of proficiency as determined by the total marks obtained by each and shall be arranged in three classes:—

The *first*, consisting of those who obtain not less than 60 per cent; the *second*, of those who obtain not less

than 50 per cent; and the *third,* of those who obtain not less than 40 per cent.; of the total marks.

*DEGREE OF MASTER OF ARTS.

Honours graduates proceeding to M.A.

11. Upon payment of a fee of Rs. 25 a graduate in Honours may, without further examination, proceed to the degree of M.A. after the lapse of five years from the date of his having passed the Intermediate Examination in Arts and Science.

M.A. Degree Examination, qualification to appear

12. A Bachelor of Arts of this University after an interval of two years from the date of qualifying for that degree may further qualify for the M.A. Degree by passing the prescribed examination in any one of the following subjects:—

I. Mathematics.

II. Philosophy.

III. History, Economics and Politics.

IV. Two languages other than English; one being a classical language already studied in the Intermediate Course; provided however that this restriction shall not apply if one of the two languages selected is Sanskrit and the other an Indian Vernacular.

V. English Language and Literature.

VI. Sanskrit Language and Literature.

VII. Arabic Language and Literature.

Such Bachelor of Arts when qualified may, upon payment of a fee of Rs. 25, proceed to the Degree of M.A., after a lapse of five years from the date of his having passed the Intermediate Examination.

For the purpose of this Regulation a Bachelor of Science who has passed in Part II—Mathematics will be deemed to have satisfied the requirement of a pass in that subject in order to be eligible to appear for the M.A. Exa-

*Will be held till 1935. The Syllabuses and Text-books will be the same as for the B.A. (Hons.) Degree under the new Regulations. (*Vide* Appendix IV).

mination, provided that an interval of two years has elapsed from the date of qualifying for the B.Sc. Degree.

Nothing in this Regulation will, however, prevent a Master of Arts of this University from being allowed to appear for the M.A. Degree Examination in any one of the subjects prescribed for that examination upon payment of the prescribed fees.

Provided, however, that it shall be competent for the Syndicate to recognise the B.A. Degree Examination of the Andhra and Annamalai Universities as equivalent to the B.A. Degree Examination of this University for purposes of enabling Bachelors of Arts of the Andhra and Annamalai Universities to appear for the M.A. Degree Examination of this University under the prescribed conditions. Candidates shall be permitted to appear for the M.A. Degree Examination under this Regulation till March-April 1935 inclusive.

Subjects for Examinations

13. A candidate shall be examined in—

I. Mathematics

I. Mathematics

Pure and Applied Mathematics in accordance with lists (*a*), (*b*) and (*c*) of subjects prescribed for candidates for the B.A. (Honours) Degree Examination in Regulation 9 (i) of this Chapter—i. Mathematics.

II. Philosophy

II. Mental and Moral Science

(1) Logic and Theory of Knowledge, according to a syllabus.

(2) Either Psychology or Ethics, as the candidate may prefer, according to a syllabus.

(3) Outlines of European Philosophy, according to a syllabus.

(4) Outlines of Indian Philosophy, according to a syllabus.

(5) A prescribed modern work dealing constructively with the general problems of Philosophy.

III. History, Economics and Politics.

III. A & B History, Economics and Politics

The subjects prescribed for candidates for the B.A. (Honours) Degree Examination in Regulation 9 (iii) of this Chapter—History, Economics and Politics, provided that candidates for the M.A. Degree Examination shall be restricted in their choice of optional subjects to those offered in each particular year by candidates for the B.A. (Honours) Degree Examination.

IV. Two Languages other than English.

IV. Two Languages other than English

The course in each language, the text-books prescribed and the examination therein shall be identical with those prescribed for Branch (iv) mentioned in Regulation 1 of this Chapter, the provision for exemption from certain portions of the examination as set forth under Branch iv in Regulation 9 of this Chapter being applicable to such candidates for the M.A. Degree in Branch iv under Regulation 12 of this Chapter as have passed the B.A. Degree Examination in Group (vi).

V. English Language and Literature.

V. English Language and Literature

(*a*) The History of the English Language, Old and Middle English.

(*b*) The History of English Literature, Shakespeare, Modern English Literature.

VI. Sanskrit Language and Literature.

or

VII. Arabic Language and Literature.

VI. Sanskrit Language and Literature
VII. Arabic Language and Literature

The courses shall be identical with those prescribed for candidates for the B.A. (Honours) Degree Examination in Regulation 9 (vi) or (vii) respectively of this Chapter, with the omission of Comparative Philology and Comparative Grammar.

14. So far as provision is made in the foregoing regulation for subjects of examination corresponding with subjects offered by candidates for the B.A. (Honours) Examination, the examination for the Degree of Master of Arts shall be, in respect of the subjects and books offered and the question papers which candidates are required to answer in each year, identical with the final examination as conducted in that year in accordance with the regulations for the Degree of Bachelor of Arts (Honours) except that the paper set in History of the English Language shall not include questions the answers to which involve a knowledge of Gothic. No candidate shall be required to undergo a *viva voce* Examination.

Examinations identical with B.A (Honours)

15. A candidate shall be declared to have passed the examination for the degree of Master of Arts if he obtains not less than 40 per cent of the total marks and not less than 30 per cent of the marks in any division of the examination in which a separate minimum is required, provided that the passing minimum in each division of the examination in Branch iv shall be as specified hereunder. All other candidates, shall be deemed to have failed in the examination. These divisions shall be as follows.

Marks qualifying for a pass

Divisions of the examination

Branch I—(*a*) Pure Mathematics, (*b*) Applied Mathematics, (*c*) Optional Subject.

Branch II—(*a*) Logic, and Psychology or Ethics.

(*b*) Outlines of European Philosophy and Outlines of Indian Philosophy, (*c*) General Philosophy and Essay.

Branch III—A. (a) Indian History and Constitutional History, (b) Politics and Economics, (c) Special Subjects.

B. (*a*) Economics (two papers), (*b*) Politics and Indian History, (*c*) Special Subjects.

Branch IV—(*a*) All the five papers in the first language, excluding the additional paper in Composition, as in Regulation 9 of this Chapter,

(*b*) The additional paper in Composition in the first language, as in Regulation 9 of this Chapter.

(*c*) All the five papers in the second language excluding the additional paper in Composition, as in Regulation 9 of this Chapter.

(*d*) The additional paper in Composition in the second language, as in Regulation 9 of this Chapter.

The passing minimum in each of the two divisions of the Examination in an Indian vernacular shall be 40 per cent, while, in other cases, it shall be 35 per cent in each of the two divisions.

Branch V—*English Language and Literature*—No divisions.

Branch VI or VII—(*a*) General part, (*b*) Special part.

Classification of successful candidates.

Successful candidates who obtain not less than 60 per cent of the total marks shall be declared to have passed the examination in the *first* class; those who obtain not less than 50 per cent shall be declared to have passed in the *second* class; and those who obtain not less than 40 per cent shall be declared to have passed in the *third* class.

APPENDIX XVIII.

COURSES OF STUDY AND EXAMINATIONS FOR THE B.A. (HONOURS) DEGREE EXAMINATION IN PHYSICAL AND NATURAL SCIENCES.

(UNDER EXISTING REGULATIONS).*

(Extract from the Regulations of 1918 Calendar).

A. *Course of Study.*

1. For the B.A. (Honours) degree the course shall extend over a period of not less than three years and shall comprise instruction in:—

I. English.

II. Optional Branch.—

(i) Any two of the following subjects, one of which shall be the main subject and the other the subsidiary subject.

i. Physics.

ii. Chemistry.

iii. Botany.

iv. Zoology.

v. Geology.

vi. Physiology.

(ii) Mathematics as a subsidiary subject with Physics as the main subject.

(iii) The subsidiary course in Mathematics shall be the same as for the subsidiary course in Mathematics for the B.A. Pass Course.

Note.—The regulations in the main calendar in regard to Fees, dates for application for registration, Examination, etc., will apply.

*These Regulations will remain in force for the benefit of candidates desiring to qualify for the M.A. Degree in Physical or Natural Science upto and including the year 1934-35, and the candidates should take the same papers in the corresponding Branch of the B.Sc. (Hons.) Degree Examination of the year.

B. Examinations.

* * * *

2. (a) No candidate shall be eligible for the B.A. (Honours) degree until he has passed an examination in one of the branches of knowledge contained in the courses of study.

(b) No candidate, other than those hereafter exempted, shall be admitted to the final examination in Honours unless he has passed a preliminary examination.

This preliminary examination shall be in English for the B.A. degree in (1) Composition, (2) Nineteenth Century Prose.

* * * *

(c) No candidate shall be declared to have passed the preliminary examination unless he obtains forty per cent. of the total marks in the two papers. Candidates obtaining not less than sixty per cent. of the total marks shall be declared to have passed with distinction.

3. No candidate shall be admitted to the preliminary examination unless he has passed the Intermediate Examination in Arts in this University or an examination in some other University recognised by the Syndicate as equivalent thereto. Each candidate must forward with his application his Intermediate or other accepted certificate.

* * * *

4. A candidate for the B.A. (Honours) degree shall appear for the final examination in Honours not later than the end of the fourth year after he has passed the Intermediate Examination.

5. No candidate shall be permitted to undergo the complete final examination in Honours more than once.

6. In the event of a candidate for the B.A. (Honours) degree failing to satisfy the Examiners he may be recommended by them for the B.A. degree, provided that he obtains not less than $33\frac{1}{3}$ per cent of the total marks and not less than twenty-five per cent in each division of the examination.

7. A candidate not already eligible for the B.A. Degree, who, having failed completely in the B.A. (Honours) Degree Examination, desires to appear for the B.A. Degree Examination shall be allowed to do so without the production of a further certificate of attendance in an affiliated college.

* * * *

8. No candidate shall be admitted to the examination until he has been registered.

* * * *

9. A candidate for the B.A. (Hons.) degree who has passed the B.A. or the B.Sc. Degree Examination shall be permitted to appear for the B.A. (Hons.) Degree Examination after a two years course, provided he has passed the B.A. or the B.Sc. Degree Examination in the main subject in which he desires to appear. Each such candidate shall forward so as to reach the Registrar before the 20th March preceding the Examination, certificates, in the form hereinafter prescribed, from the head of an affiliated college to the effect that he has attended an affiliated college for a period of at least two years after passing the B.A. or the B.Sc. Degree Examination, that he has completed the course of instruction in the subjects in which he proposes to appear and that his conduct and progress have been satisfactory. He shall be exempted from passing the preliminary examination, and if he appears for the examination in the Science Branch, he shall be exempted from examination in the subsidiary subject, and shall be credited with the percentage of marks which he obtained in that subject in the B.A. or the B.Sc. Degree Examination.

10. A candidate who has already qualified for the Degree of Bachelor of Arts (Honours) in any of the subject may further qualify for that degree in an additional allied Science Branch as the main subject.

A candidate desirous of coming under the provisions of the above regulation shall submit his laboratory note-book containing the record of his practical work performed during the period of study for the Examination (duly certified by his Professor) as a *bona fide record* of work done by him. The laboratory note-book shall be submitted on the first day of the Practical Examination to the Examiners engaged in conducting the Examination.

He shall be exempted from examination in the subsidiary subject, provided it was the main subject in which he previously qualified for the Honours Degree.

A candidate coming under the provisions of this Regulation shall be declared to have passed the Examination if he has obtained not less than 40 per cent. of the total marks, and 30 per cent. of the marks in each division of the Examination. The Divisions shall be as follows:—

(*a*) Written examination in the Main subject.

(*b*) Practical examination and laboratory note-books in the Main subject.

Note:—The Courses of Study and Syllabuses in the several subjects are the same as for B.Sc. (Hons.) Degree Examination. (*Vide* Appendix VI).

APPENDIX XIX

Degree of Bachelor of Science in Agriculture.

(*Regulations in force prior to 1932.*)

A.—Courses of Study.

Conditions of admission

1. Candidates for the Degree of Bachelor of Science in Agriculture (B.Sc. Ag.) shall be required

(1) to have passed the Intermediate Examination in Arts and Science of this University or an examination of some other University accepted by the Syndicate as equivalent thereto;

(2) to have undergone subsequently a further course of study in Agriculture extending over three years at a College of Agriculture affiliated to this University, and to have passed the examination for the Degree hereinafter prescribed.

Course of Study

2. The course of study in Agriculture shall comprise both theoretical and practical instruction in the following subjects:—

Part I—(1) Agriculture, including Animal Hygiene.
(2) Agricultural Botany.
(3) Agricultural Chemistry.
(4) Agricultural Zoology.
(5) Agricultural Engineering

Part II—(1) Agriculture.
(2) Agricultural Botany, including Mycology.
(3) Agricultural Chemistry.

Syllabus

3. The syllabus of studies under each of the above subjects shall be prescribed from time to time by the Syndicate on the recommendation of the Board of Studies in Agriculture.

B.—Examinations.

Examinations

4. The examination for the Degree of Bachelor of Science in Agriculture shall be held in two parts; no candidate shall be eligible for the degree unless he has passed both Part I and Part II of the examination.

Part I

5. Part I of the examination shall be held at the end of the second year of the course of study and shall be in the following subjects.—

(1) Agriculture, including Animal Hygiene, (2) Agricultural Botany, (3) Agricultural Chemistry, (4) Agricultural Zoology, and (5) Agricultural Engineering.

Part II

6. Part II of the examination shall be held at the end of the third year of the course of study and shall cover the whole course in the following subjects:—

(1) Agriculture, (2) Agricultural Botany, including Mycology, and (3) Agricultural Chemistry.

No candidate shall be admitted to Part II of the examination unless he has passed Part I, except as provided in Regulation 8 of this Chapter.

Examination, both written and practical

7. The examination in each Part shall be both written and practical, as hereinafter prescribed; in conjunction with each practical examination there may be an oral examination of each candidate. Each candidate shall produce to the Examiners for scrutiny his laboratory and field note-books.

Exemption from re-examinations in certain subjects in Part I

8. A candidate in Part I of the examination who fails in not more than one subject and who obtains not less than 40 per cent. of the aggregate number of marks shall be exempted from re-examination in the remaining subjects of that Part and may

appear again in any year for re-examination in the subject in which he has failed without the production of a further certificate. Such candidate may proceed to Part II of the examination on the production of the certificates required for that Part: provided that he shall not be eligible for the degree until he has passed the remaining subject of Part I in accordance with Regulation 9 (*a*) of this Chapter.

Marks for a pass in Part I

9. (*a*) A candidate shall be declared to have passed the examination in Part I if he obtains not less than 40 per cent of the total aggregate marks and not less than 33 per cent in each of the five separate subjects enumerated in Regulation 2 of this Chapter. Candidate obtaining not less than 66 per cent. of the total aggregate marks in one and the same examination shall be declared to have passed in the first class; all other successful candidates shall be placed in the second class.

Marks for a pass in Part II

(*b*) A candidate shall be declared to have passed the examination in Part II if he obtains not less than 45 per cent. of the total aggregate marks and not less than 33 per cent of the marks in each of the three subjects. Candidates obtaining not less than 66 per cent. of the marks in 'Agriculture' and not less than 66 per cent of the total aggregate marks shall be declared to have passed in the first class; all other successful candidates shall be placed in the second class.

Classification of successful Candidates.

(*c*) Successful candidates shall be ranked in the order of proficiency as determined by the total number of marks obtained by each in Part I and Part II respectively and shall be placed in the first or second class as the case may be in accordance with Regulations 9 (*a*) and 9 (*b*).

SYLLABUSES FOR THE B.Sc. DEGREE IN AGRICULTURE

AGRICULTURE INCLUDING ANIMAL HYGIENE

PART I

1. *Definition of Agriculture.*—Its importance and history, relation of science to agriculture.

2. *Geology.*—Origin of the earth's crust; formation of rocks and minerals and their classification; chief rocks and minerals of the Madras Presidency.

3. *Meteorology.*—Air, its composition; air movements; wind currents; monsoons. Rainfall and climate; factors which influence climate. Influence of climate and seasons on farming generally and with special reference to different parts of the Presidency. Weather forecasts; their objects.

4. *Soils.*—Formation, classification and properties. Soil and sub-soil. Soils of the Madras Presidency. Functions, sources of losses and gains to soils.

5. *Tillage.*—Necessity, methods and effects.

6. *Farm implements and machinery.*

(*a*) Ploughs and ploughing.

(*b*) Cultivators, harrows, hoes, grubbers, rollers, drills.

(*c*) Harvesting tools and machinery, threshing machines, winnows, gins.

(*d*) Carts and tools.

(*e*) Power cultivation.

7. *Soil fertility.*—Maintenance, rotations, fallows, and mixtures.

8. *Soil Improvement.*—Including soil reclamation, various methods adopted.

9. *Irrigation.*—Importance. Methods. Productive and protective irrigation works. Effects of irrigation works on the tract irrigated. Management of irrigated lands. Duty of water.

10. *Drainage.*—Importance; methods; relation of irrigation to drainage.

11. *Animal husbandry.*—Cattle, sheep and goats. Their importance to the farmer. Description of breeds and the breeding tracts of the cattle of the Presidency. Principle of feeding cattle, actual rations, their value and cost. Management of livestock. their housing and care. Objects, principles and methods of breeding. Rearing of calves, sheep and goats—chief breeds, feeding and management.

Practical Work

The students will undergo practical training in all branches of farm work. In addition each student will himself cultivate half an acre of dry land and one-tenth of an acre of wet land and maintain cultivation sheets and observation note-books.

ANIMAL HYGIENE

Farm animals; the ox; buffalo, goat and sheep. Comparative study of the skeleton and principal organs of these animals the function of the digestive, circulatory, respiratory, urinary and genital systems. Care of animals in health and disease. Diagnosis of common ailments and treatment thereof by simple surgical and medicinal methods.

Students will receive practical training in handling and treating such animals, in performing simple operations and in mixing and administering simple medicines.

PART II

12. *Crops.*—Classification of crops: cereals, pulses, oil seeds, sugarcane, fibres, dyes, drugs and narcotics, fodder crops; fruits and vegetables and miscellaneous crops of the Presidency. The cultivation of the above in detail and their preparation for the market.

Cocoanut, palmyra and other trees of economic importance; market gardening; pastures; their management; hay and silage making, rotations, mixtures.

13. *Improvement of crops.*—Importance of seed selection, (*a*) single plant, and (*b*) bulk.

14. *Preservation and storage of seed.*—Drying, steeping and fumigation.

15. *Manures and manuring.*—Principles and classification. Farm yard manure; sheep manure; dung of horses and pigs; fish manure; guano; bones; bonemeal; soot; dried blood; slaughter-house refuse; night soil; poudrette; sewage; oil cakes; green and chemical manures.

16. *Dairy farming.*—Dairy cows, their feeding, management and breeding.

Dairy products, milk, physical properties, chemical composition, treatment and disposal.

Cream, separation, curdling of milk, starters, their object, skim milk, butter making, curds and ghee manufacture. Relation of bacteria to dairy.

Dairy equipment.—Building and machinery.

Dairy economics.

17. *Agricultural experiments.*—Objects and scope. Methods of conducting experiments. Calculation of experimental error.

18. *Farm management.*—Location and laying out of farms. Farm buildings, their location, arrangement and cost. Equipment, distribution and management of farm labour—human and animal.

Disposal of manure.

Systems of farming. Cost of cultivation of crops. Valuation of land and crops.

Farm accounts.

19. *Co-operative production and marketing of agricultural produce.*—Purchase of implements and manures.

Co-operative credit societies.

20. *Agricultural economics.*—Its relation to general economics. Theories of value and price. Laws of demand and supply. Markets. Factors of production—land, labour and capital.

Land settlements.—Crop cutting experiments, land tenures, permanent and ryotwari. Relation between landlord and tenant. Land acquisition and land alienation acts. Leases, assessment. Water rates, Large and small holdings, Fragmentation and consolidation of holdings.

Labour.—Skilled and unskilled. Permanent and casual. Wages, kind and money. Efficiency of labour.

Practical Work.

Students will undergo practical training in all branches of animal husbandry, including management, handling and feeding. Practical dairy work, including handling and separation of milk, butter making, ghee manufacture.

Tours

They will also receive practical training in farm management. Every student will maintain an observation note-book in which details of practical work and other observations he makes from time to time will be recorded.

Excursions and tours in representative agricultural tracts shall also form part of the practical training.

AGRICULTURAL BOTANY

Part I.

The external morphology of Angiosperms.—The general form, structure and modifications of root, stem, leaf, inflorescence, flower, fruit and seed.

Histology.—The plant cell and the nature of its contents. Cell division. The chemical, physical and physiological characters of protoplasm. The different kinds of tissues, their origin, nature and development. Primary and secondary tissues and their distribution in the plant body. The plant skeleton and the tissues of which it is composed. The internal structure of normal roots, stems, leaves, anthers and ovules of plants.

Elements of vegetable physiology.—Absorption of water and gases and their movement in the plant. Photo-synthesis and synthesis of proteids. Translocation and storage of food materials and their digestion. Respiration in plants. Growth, movements and irritability in plants. Reproduction in plants. Dispersal of fruits and seeds.

The classification of flowering plants.—General principles. A knowledge of the general characters of the following Families or Natural Orders mainly based on crop plants, plants of economic importance and weeds. Anonaceae. Cruciferae, Malvaceae, Rutaceae. Mitaceae, Anacardiaceae, Leguminosae, Myrtaceae, Cucurbitaceae, Umbelliferae, Rubiaceae, Compositae, Asclepiadeae, Convolvulaceae, Solanaceae, Labiatae, Amarantaceae, Piperaceae, Euphorbiaceae, Urticaceae, Scitamineae, Amaryllideae, Liliaceae, Palmeae, Aroideae, Cyperaceae and Gramineae.

Physiology and Ecology of Plants.—The water culture or sand culture method of rearing plants. Chemical composition of plants. The essential and non-essential elements of plant food. Sources of energy in plants. Enzymes and their action. Special modes of nutrition in plants.

External factors and their influences on the plant. Distribution of plants and the factors governing it with special reference to common weeds and crop plants. Different types of vegetation, such as Xerophytes, Mesophytes, Halophytes and Hydrophytes.

Practical Work.

Students will examine and describe plants of the families or groups specified in the syllabus, make dissections and drawings of the various parts of plants and construct floral diagrams and prepare sections of parts of plants for the microscope so as to illustrate their structure. They will carry out simple experiments in plant physiology.

AGRICULTURAL BOTANY INCLUDING MYCOLOGY

PART II.

Agricultural Botany.—The cultivated plants and their origin. Differences between cultivated and wild plants. Methods of improvement of crops. Seed testing. Recognition of the seeds of the common weeds and crop plants. The morphology and physiology of the cereals, pulses, fibre plants, vegetables, oilseeds and the chief industrial and economic crops under cultivation.

Vegetative and sexual reproduction. Cross and self-fertilization. Principles of heredity, mendelism and plant breeding. Theories of evolution, variation and origin of species.

Horticulture.—The principal horticultural operations. Methods of grafting, budding and pruning. General methods of propagation of plants. Recognition of the common fruits and fruit trees.

Cryptogams.—The main points of structure, development and life history of the following groups:—Blue green and Green-Algæ, Charceæ, Bryophyta, Filicineæ and Lycopodineæ.

Mycology.—The structure of fungi—their modes of nutrition and reproduction. Dissemination of fungi and infection of host plants. Effect of fungi on host plants. Methods of control of plant diseases. Classification of fungi and the character of the main groups. Disease of crops.

Practical Work

Candidates will examine the common weeds growing in cultivated fields and their seeds, graft and bud fruit trees and flower shrubs, recognize, describe and refer to their families crop plants and dissect and prepare sections to illustrate their structure under the simple and compound microscopes.

In Mycology they will observe the simple laboratory method of examining a diseased plant, planting and culture, etc., and simple infection experiments.

AGRICULTURAL CHEMISTRY.

PART I

A. Inorganic Chemistry.—Portions done in the Intermediate Course to be revised, with special reference to general principles.

B. *Organic Chemistry.*—Composition, purification and analysis of organic compounds. Classification, compound radicles, open and closed chains. Saturated and unsaturated compounds. Constitutional formulæ. Isomerism, metamerism, polymerism.

The hydrocarbons of the methane, ethylene and acetylene series. General properties.

Monhydric alcohols. Alcoholic fermentation. Wood spirit. Ether. Aldehydes and ketones. Fatty acids and their derivatives. Esters. Amines. Cyanagen compounds, Cyanomide, Aminoacides. Urea and ureides, Glycol, Lactic, Oxalic, succinic; malic; tartaric; and citric, acids.

Glycerine, fats, oils and soaps.

The carbohydrates. Optical activity. The polariscope.

Aromatic compounds.—Benzene and its chief derivatives. The phenols. Aromatic aldehydes, ketones and quinones, Tannin, indigo, alkaloids, glucosides and essential oils. The proteins.

C. *The Soil.*—Physical properties. Mechanical analysis. Relation of soils to water. Relation of soils to temperature. Soil gases. Reactions taking place in soils. Dormant and available plant food. Retention of bases and acids. Chemical analysis. Interpretation of results. Injurious salts in soil. Alkaline lands and their formation and amelioration.

Biological action in soil, and breakdown of carbohydrate and protein material.

Practical

A. Qualitative analysis of salts or simple mixtures of salts, containing bases and acids of common occurrence and of agricultural importance.

B. Identification of commonly occurring organic substances, e.g., important carbohydrates—acids, such as acetic, lactic, oxalic, tartaric, citric and hydrocyanic and alkaloids—general tests.

C. *Volumetric analysis.*—Acidimetry, alkalimetry, determinations employing permanganate, iodine and thiosulphate and silver nitrate.

D. Gravimetric estimation of iron, aluminium, calcium, magnesium and potassium and sulphuric, hydrochloric, phosphoric and carbonic acids.

E. Examination of soils for physical properties. Mechanical analysis. Fixation of salts. Chemical analysis. Nitrification.

Part II.

Manures.—Necessity for manures. Soil exhaustion, minimum cropping value. Limiting factories. Classification of manures. The chief nitrogenous, phosphatic and potash manures, their manufacture, application and modes of action. Conservation of farm yard manure. Green manures. Analysis and valuation of manures.

Chemistry of the plant.—Essential elements of plants and their functions. Proximate constituents of plants. Chemical changes occurring during germination and growth. Photosynthesis. Important enzymes and their action. Analysis of plants and general composition of South Indian crops. Chemistry of crop products.

Animal Chemistry.—Composition of the animal. Composition of fodders and feeding stuffs and their analysis. Function of different nutrients. Vitamins. Digestion and absorption. Digestive co-efficients. Nutritive ratios. Calorific values. Starch equivalents. Formation of flesh, fat and milk. Feeding standards. Calculation of rations. Manurial values of foods.

Dairy Chemistry.—Composition of milk and milk products. Physical and chemical properties. Analysis and detection of adulteration. Bacteria in general relation to the dairy.

Practical.

Estimation of nitrogen by Hjeldahl's method and calorimetric estimation of ammonia and nitrates.

Analysis of manures.

Analysis of feeding stuffs and fodders.

Analysis of milk and butter.

Estimation of important carbohydrates:—Starch, sucrose, and glucose.

Examination of commonly occurring fats and oils—adulteration.

Estimation of oils in oil-seeds.

Examination of the more important vegetable and animal proteins.

Examination of water for irrigation purposes.

Syllabus of studies in Agricultural Zoology

Relation of Zoology to Agriculture. Scope of Zoology. The different aspects of zoological study. The most important points concerning the structure, the binomics, and the affinities of typical or familiar forms in the following groups with special reference to forms of economic importance.

Protozoa, Porifera, Coelenterata, Vermes, Echinodermata, Mollusca, Arthropoda, Fishes, Amphibians, Reptiles, Birds, Mammals.

Economic and applied entomology. Insects and man. Insect pests. Principles governing increase and decrease of pests. Methods of pest control. Insect pests of different orders, such as

grasshopper pests, beetle pests, etc. Pests of different kinds of crops. Pests of stored products. Pests of cattle. Household pests. Disease carriers. Useful and beneficial insects.

Practical.—A practical knowledge of the general form and the main differentiating features of the types.

Amoeba, Paramoecium, Earthworm, Prawn. (external characters only), Scorpion, Cockroach, Fresh Water Mussel (external characters), Fish (external characters), Frog, Fowl and Rat.

Identification and investigation of the important insect pests of South India. Practical observation of the collection, rearing, and preservation of insects and methods of control against pests.

Agricultural Engineering

Elementary surveying and levelling. The use of the chain, prismatic compass and plane table, mensuration.

Plan drawing, estimating the construction of simple buildings and machines. Elementary applied mechanics.

Farm machinery, sources of power.

Elementary Hydraulics, gauging flow of water in channels and pipes.

Practical handling of farm machinery and engines.

Practical carpentry and smithy work.

APPENDIX XX.

MATRICULATION EXAMINATION.

I hereby certify that..........has kept attendance for not less than 120 days of the previous school year before 10th March in..................School..................that he has completed the course of study prescribed for the several classes of a high school, and that his progress and conduct have been satisfactory.

Dated...............19 .

Headmaster.

CERTIFICATES OF ATTENDANCE.

INTERMEDIATE EXAMINATION IN ARTS & SCIENCE.

(a) I certify that the following candidates have kept three-fourths of the attendances prescribed by the.....................................College.....................in the course of instruction followed by them during the two years, that their conduct and progress have been satisfactory and that they have completed the course of study prescribed for the Intermediate Examination in Arts and Science.

(b) I further certify that they have undergone a course of Physical Training prescribed or recognized by the College and have kept three-fourths of the attendances.

Dated...................19 . *Principal.*

We certify that the candidates with asterisks against their names have satisfactorily completed the course of practical instruction in their respective subjects.

Professor or Lecturer in Mathematics ....
Do. do. Physics ....
Do. do. Chemistry ....
Do. do. Natural Science ....
Do. do. Engineering ....
Do. do. Geography ....
Do. do. Indian Music ....

Principal.

No.	Name of candidate.	Second Language.
	Mathematics, Physics, Chemistry.	
1	......	Tamil.
2	......	Telugu.
3	......	Kanarese.
	Natural Science. Physics, Chemistry.	
1	......	...
2	......	...
3	......	...

B.A. DEGREE EXAMINATION.

I certify that the following candidates have kept three-fourths of the attendances prescribed by the....................College, ...in the course of instruction in Part I (English Language and Literature), Part II (A Second Language) and Part III (one of the optional groups) during the two years, that their conduct and progress have been satisfactory and that they have completed the course of study prescribed for the B.A. Degree Examination.

Dated....................19 . *Principal.*

We certify that the candidates with asterisks against their names have attended the course of practical instruction in their respective subjects for the B.A. Degree Examination during the two years and that they have satisfactorily completed the course.

Professor or Lecturer in Mathematics......................
Do. do. Physics ....
Do. do. Chemistry ....
Do. do. Botany ....
Do. do. Zoology ....
Do. do. Geology ....
Do. do. Mechanical Engineering ....
Do. do. Electrical Engineering ....
Do. do. Indian Music. ....

Principal.

No.	Name of candidate.	Second Language.	Subsidiary subject.
	Group (i-a).		
1	......	Tamil.	...
2	......	Telugu.	...
3	•	Malayalam.	...
	Group (ii-a).		
1	......	Tamil.	Physics.
2	......	Telugu.	Chemistry.
3	......	Kanarese.	Botany.

$\frac{B.A.}{B.Sc.}$ (HONOURS) DEGREE EXAMINATION.

$\frac{\text{Preliminary}}{\text{Part I}}$ Examination.

I certify that the following candidates have kept three-fourths of the attendances prescribed by the.................... ....College, ...in the course of instruction in English during one year, that their conduct and progress have been satisfactory and that they have completed the course of study prescribed for the $\frac{\textit{Preliminary}}{\textit{Part I}}$ *Examination for the* $\frac{B.A.}{B.Sc.}$ *(Honours) Degree.*

Dated......................19 . *Principal.*

No.	Name of candidate.
1	......
2	......
3	......
4	......

B.A. (Honours) DEGREE EXAMINATION.

Final Examination.

I certify that the following candidates have kept three-fourths of the attendances prescribed by the.....................College, ...in the course of instruction followed by them during the three years, that their conduct and progress have been satisfactory and that they have completed the course of study prescribed for the B.A. (Honours) Degree Examination.

Dated......................19 . *Principal.*

No.	Name of candidate.
	Branch 1—Mathematics.
1	......
2	......
3	......

B.Sc. DEGREE EXAMINATION.

PART I.

I certify that the following candidates have kept three-fourths of the attendances prescribed by the...................College, ...in the course of instruction in languages during one year, that their conduct and progress have been satisfactory and that they have completed the course of study prescribed for the examination in Part I for the B.Sc. Degree.

Dated.................. 19   *Principal.*

No.	Name of candidate.	Language.
1	......	......
2	......	......
3	......	......
4	......	......

B.Sc. / B.Sc. (HONS.) DEGREE EXAMINATION.

PART II.

I certify that the following candidates have kept three-fourths of the attendances prescribed by the...................College, ...in the course of instruction followed by them during the two / three years, that their conduct and progress have been satisfactory and that they have completed the course of study prescribed for the B.Sc. / B.Sc. (Honours) Degree.

Dated.................. 19   *Principal.*

We certify that the candidates with asterisks against their names have attended the course of practical instruction in their respective subjects for the B.Sc. / B.Sc. (Honours) Degree Examination during the two / three years and that they have satisfactorily completed the course.

Professor or Lecturer in Mathematics......................
Do. do. Physics ....
Do. do. Chemistry ....
Do. do. Botany ....
Do. do. Zoology ....
Do. do. Geology ....
Do. do. Mechanical Engineering ....
Do. do. Electrical Engineering ....

No.	Name of candidate.	Main subject.	Subsidiary subject.
1	......	Mathematics.	Physics and Chemistry.
2	......	Physics ...	Chemistry & Botany.
3	......	Chemistry ...	Physics and Botany.

F.L. / B.L. DEGREE EXAMINATION.

I certify that the following candidates have kept three-fourths of the attendances prescribed by the....................*College*, ...*in the course of instruction in Law during the year, that their conduct and progress have been satisfactory and that they have completed the course of study prescribed for the* $\frac{\textit{F.L.}}{\textit{B.L. Degree}}$ *Examination.*

Dated....................*19* . *Principal.*

No.	Name of candidate.
1	......
2	......
3	... ..
4	......

ORIENTAL TITLE EXAMINATION.

Preliminary
Final
Certificate of
Proficiency } Examination.

I certify that the following candidates have kept three-fourths of the attendances prescribed by the...................College, ...in the course of instruction followed by them during the two years, that their conduct and progress have been satisfactory and that they have completed the course of study prescribed for the examination.

Dated...................*19* . ***Principal.***

No.	Name of candidate.
	Siromani—Branch I.
1	......
2	......
3	......
	Vidvan—Regulation 7-A.
1	......
2	......
3	......
	Certificate of Proficiency.
1	......
2	......
3	......

EXAMINATION FOR THE DIPLOMA / CERTIFICATE IN { ECONOMICS. / EUROPEAN LANGUAGES. / GEOGRAPHY. / INDIAN MUSIC. / LIBRARIANSHIP. }

I certify that the following candidates have attended during the two years / the year three-fourths of the course of lectures and classes arranged for the benefit of candidates for the Diploma, / Certificate, that they have under my supervision systematically followed the course of study prescribed and that their conduct and progress have been satisfactory.

Dated.....................19 . *Professor or Lecturer.*

No.	Name of candidate.
1	......
2	......
3	......
4	......

F. E. / B. E. DEGREE / L. T. DEGREE. / B.Sc. (Ag.) DEGREE. } EXAMINATION.

I certify that the following candidates have kept three-fourths of the attendances prescribed by the....................College, ...in the course of instruction and practical training in Engineering|Teaching|Agriculture during the two years|four years|year|year, that their conduct and progress have been satisfactory and that they have completed the course of study prescribed for the F.E.|B.E. Degree|L.T. Degree|B.Sc. (Ag.) Degree|Examination.

Dated.....................19 . *Principal.*

No.	Name of candidate.
1	......
2	......
3	......

PRE-REGISTRATION EXAMINATION.

I certify that..........has undergone the prescribed course of study extending over a period of six months, subsequent to his passing the Intermediate Examination, and that his progress and conduct have been satisfactory.

(Signature)

Dated...............19

Principal, Medical College.

I certify that............has attended a course of lectures on Inorganic Chemistry and a course of instruction in Practical Chemistry.

(Signature)

Dated..............19 .

Professor of Chemistry.

I certify that............has attended a course of Experimental Physics, including Practical Physics.

(Signature)

Dated................19 .

Professor of Physics.

I certify that............has attended a course of Biology, Theoretical and Practical.

(Signature)

Dated............19 .

Professor of Biology.

FIRST M.B. & B.S. EXAMINATION.

PART I

I certify that to the best of my knowledge and belief........ completed the age of seventeen years on or before the date of admission to the Medical College............that he has been engaged in Medical studies at the Medical College..........for not less than one academic year subsequent to his passing the Pre-Registration Examination, and that his progress and conduct have been satisfactory.

(Signature)

Dated............19 .

Principal, Medical College.

I certify that............has attended a course of lectures on Organic Chemistry, and a course of instruction in Practical Organic Chemistry.

(Signature)

Dated................19 .

Professor of Chemistry.

PART II

I certify that..........has been engaged in Medical studies at the Medical College,............for not less than two academic years subsequent to his passing the Pre-Registration Examination and that his progress and conduct have been satisfactory.

(Signature)

Dated................19 .

Principal, Medical College.

I certify that.............has attended a course of instruction in Anatomy including Elements of Human Embryology, Theoretical and Practical.

(Signature)

Dated................19 .

Professor of Anatomy.

I certify that..............has dissected for twelve months during the regular sessions and has completed the dissections of the human body.

(Signature)

Dated................19 .

Professor of Anatomy.

I certify that............has attended a course of lectures on Physiology and a course of instruction in Practical Physiology including Histology.

(Signature)

Dated................19 .

Professor of Physiology.

I certify that..........has attended a course of lectures on Bio-Chemistry and a course of instruction in Practical Chemical Physiology and Bio-Chemistry.

(Signature)

Date................19 .

Professor of Chemistry.

SECOND M.B. & B.S. EXAMINATION.

PART I.

I certify that............has been engaged in Medical studies at the Medical College,............for not less than one academic year subsequent to his passing the First M.B. & B.S. Examination, and that his progress and conduct have been satisfactory.

(Signature)

Dated................19

Principal, Medical College.

I certify that..........has attended a course of lectures on Pharmacology and a course of instruction in Practical Pharmacy.

(Signature)

Dated................19

Professor of Pharmacology.

PART II.

I certify that..........has been engaged in Medical studies at the Medical College,...........for not less than one academic year for Hygiene and Ophthalmology and two academic years for General Pathology with Bacteriology subsequent to his passing the First M.B. & B.S. Examination and that his progress and conduct have been satisfactory.

(Signature)

Dated................19

Principal, Medical College.

I certify that............has attended a course of lectures on Hygiene and a course of instruction in Practical Hygiene.

(Signature)

Dated................19

Professor of Hygiene.

I certify that............has attended a course of lectures on General Pathology with Bacteriology.

(Signature)

Dated................19

Professor of Pathology.

I certify that............has attended a course of instruction in Practical Pathology including Bacteriology.

(Signature)

Dated................19

Professor of Pathology.

I certify that............has been engaged in Post-mortem-room-clerking for a period of three months.

(Signature)

Dated................19

Professor of Pathology.

I certify that............has attended (1) a course of instruction in Ophthalmology extending over a period of two terms and (2) an Ophthalmic hospital or the Ophthalmic wards of a General Hospital on three days in the week for a period of three months.

Dated............19 *(Signature)*

Professor of Ophthalmology.

FINAL M.B. & B.S. DEGREE EXAMINATION.

PART I.

I certify that..........has been engaged in Medical studies at the Medical College............ for not less than one academic year subsequent to his passing the First M.B. & B.S. Examination and that his progress and conduct have been satisfactory.

(Signature)

Dated................19 .

Principal, Medical College.

I certify that............has attended a course of instruction in Forensic Medicine including demonstrations for a period of two terms.

(Signature)

Dated................19 .

Professor of Forensic Medicine.

PART II

I certify that........has been engaged in Medical studies at the Medical College...........for not less than three academic years subsequent to his passing the First M.B. & B.S. Examination and that his progress and conduct have been satisfactory.

(Signature)

Dated................19 .

Principal, Medical College.

I certify that..........has attended a course of instruction in Medicine including Therapeutics.

(Signature)

Dated...................19 .

Professor of Medicine.

I certify that........has been engaged as Clinical clerk in the Medical Wards of a recognised hospital for a period of nine months.

Dated...........19 . ***(Signature)***

Physician.

*..............**Hospital.***

I certify that............ has been engaged as clinical clerk in the Medical Out-patients Department of a recognized hospital for a period of three months.

(Signature)

Dated........... ....

Medical Officer.

*..............**Hospital.***

I certify that..........has attended a recognised course of instruction in Infectious Diseases.

(Signature)

Dated 19

Professor of Medicine.

I certify that ....has attended as clinical clerk in a recognized hospital for Infectious Diseases in two days in the week for a period of three months.

Dated............19 . *(Signature)*

Medical Officer,

Hospital for Infectious Diseases.

I certify that..........has attended a recognized course of instruction in Mental Diseases.

(Signature)

Dated................19 .

Professor of Mental Diseases.

I certify that............has attended as clinical clerk in a recognized Mental Hospital on one day in the week for a period of three months.

(Signature)

Dated................19 .

Superintendent,

Hospital for Mental Diseases.

I certify that............has attended a recognized course of instruction in Tuberculosis.

Dated............19 . *(Signature)*

Professor of Medicine.

I certify that..........has attended as clinical clerk in a Tuberculosis Hospital on one day in the week for a period of three months.

(Signature)

Dated.................19 .

Medical Officer,

Tuberculosis Hospital.

I certify that............has attended a recognized course of instruction in Dermatology.

(Signature)

Dated................19

Professor.

I certify that..........has attended the special department relating to skin diseases on two days in the week for a period of three months.

(Signature)

Dated.................19 .

Medical Officer,

................Hospital.

I certify that..........has attended a recognised course of instruction in Vaccination by a qualified Health Officer.

(Signature)

Dated.................19 .

Health Officer.

I certify that........has attended a recognised course of instruction in Children's Diseases.

(Signature)

Dated................19 .

Professor.

I certify that........has attended a course of instruction in Surgery.

(Signature)

Dated................19 .

Professor of Surgery.

I certify that........has been engaged as surgical dresser in the surgical wards of a recognised hospital for a period of nine months.

(Signature)

Dated................19 .

Surgeon,

................Hospital.

I certify that..........has been engaged as surgical dresser in the Out-Patients Department of a recognised hospital for a period of three months.

Dated............19 . *(Signature)*

Surgeon,

................Hospital.

I certify that..........has attended (1) a recognised course of instruction in Oto-Rhino-Laryngology and (2) a recognised clinic as clinical clerk on three days in the week for a period of three months.

Dated.............19 . *(Signature)*

Professor.

I certify that........has attended a recognised course of instruction in Orthopedics on two days in the week for a period of three months.

Dated............19 . *(Signature)*

Professor.

I certify that............has attended a practical instruction in the administration of anaesthetics and has personally administered a general anaesthetic in at least six cases.

Dated............19 . *(Signature)*

Surgeon-in-Charge.

I certify that............has attended a recognized course of instruction in Operative Surgery.

Dated............19 *(Signature.)*

Professor of Operative Surgery.

I certify that........has attended (1) a recognized course of instruction in Radiology and (2) an X-Ray Institute on three days in the week for a period of one month.

Dated............19 . *(Signature)*

Radiologist.

I certify that........has attended (1) a recognized course of instruction in Venereal diseases and (2) a Venereal clinic for two days in the week for a period of three months.

Dated............19 . *(Signature)*

Professor.

I certify that before commencing the study of Practical Midwifery..............has attended a course of lectures on Medicine, Surgery, and Midwifery and diseases to women and new born child.

Dated............19 . *(Signature)*

Professor of Obstetrics and Gynaecology.

I certify that..... .....has been engaged as clinical clerk at an antenatal clinic and the Maternity wards of a lying-in-hospital for a period of three months, that he has conducted twenty cases of labour under my supervision (of which not less than five cases were conducted in my presence) and that under my supervision he attended the cases during the puerperal period.

Dated............19 . *(Signature)*

Member of the Staff of a Lying-in-Hospital or of a Maternity Charity recognized by the University of Madras.

I certify that..........has been engaged as clinical clerk in the Gynaecologic wards and Out-patient Department of a recognized hospital for a period of three months.

Dated............19 . *(Signature)*

Medical Officer,

................Hospital.

ADDITIONAL CERTIFICATE AFTER ONE TERM'S STUDY.

*I certify that............has been re-engaged in the prescribed course of studies for the............Examination for a period of one term subsequent to his appearance at that examination in *...............when he was referred to his studies by the Examiners and that his progress and conduct have been satisfactory.*

(Signature)

Dated................

Principal, Medical College.

DIPLOMA IN MIDWIFERY.

I certify that............has served as a House Surgeon in.. ....for a period of six months, and that he/she has personally conducted not less than six Obstetric operations during that period.*

Dated............19 . *(Signature)*

Superintendent,

..............Hospital.

I certify that............has attended a course of lectures and clinical demonstrations on Midwifery and Gynaecology for a period of six months.

Dated............19 . *(Signature)*

Superintendent,

Government Hospital for Women and Children,

Madras.

Additional Certificate of Attendance.

I certify that............has attended a course of lectures and clinical demonstrations on Midwifery and Gynaecology for a period of three months.

Dated............19 . *(Signature)*

Superintendent,

Government Hospital for Women and Children,

Madras.

B.S.Sc. DEGREE EXAMINATION.

FOR THE EXAMINATION IN PART I.

I certify that, subsequent to his having obtained a registrable medical qualification recognised by the University Mr...................has regularly attended the courses of instruction in the

***The date of the examination must be entered here.**

subjects shown below and that he has performed the work thereof in a satisfactory manner:

(*i*) *Chemistry and Physics in relation to Public Health, including Laboratory work* (180 *hours*).

(*ii*) *Bacteriology, including laboratory work* (220 *hours*).

(*iii*) *Medical Entomology and Parasitology, including laboratory work, and entomological surveys* (90 *hours*).

(*iv*) *Climatology and Meteorology* (10 *hours*).

....

Madras *Professor of Hygiene, Medical College.*

Countersigned.

....

Principal, Medical College, Madras.

PART II.

I certify that, subsequent to his having obtained a registrable medical qualification recognised by the University Mr.......................has regularly attended the courses of instruction in the subjects shown below, that he has performed the work thereof in a satisfactory manner, that he has passed the Examination in Part I for the B.S.Sc. Degree, and that two years have elapsed since he obtained a registrable medical qualification recognised by the University:—

(*i*) *Principle of Public Health* (50 *hours*).

(*ii*) *Epidemiology and Vital Statistics* (20 *hours*).

(*iii*) *Sanitary Law and Administration* (20 *hours*).

(*iv*) *Sanitary Construction and Planning* (30 *hours*).

(*v*) *Vaccination* (30 *hours*).

(*vi*) *Tuberculosis* (30 *hours*).

(*vii*) *Venereal Diseases* (10 *hours*).

(*viii*) *Attendance on the practice of a Hospital for Infectious Diseases* (60 *hours*).

(*ix*) *Instruction in Public Health Administration under the Medical Officer of Health of the City of Madras* (180 *hours*).

....

Madras. *Professor of Hygiene, Medical College.*

Countersigned.

....

Principal, Medical College, Madras.

APPENDIX XXI

Rules relating to grant of exemption to *bona fide* certificated Teachers.

The following general principles have been framed by the Syndicate on the resolution of the Academic Council *re* conditions under which exemption may be granted to *bona fide* certificated teachers:—

1. (i) That only those applications for exemption should be considered which come from certificated teachers employed in schools (also training schools provided the applicant is enaged in teaching ordinary school subjects and not professional subjects) recognised by the Madras University or by the Director of Public Instruction, Madras, Cochin, Travancore, Hyderabad, the Chief Educational Officer, Pudukottah, or the District Educational Councils and situated within the jurisdiction of the Madras and Annamalai Universities.

(ii) That applications for exemption should be made by those teachers with the permission of their Managements and that the Managements should certify that the applicants are *bona fide* teachers in their respective institutions.

(iii) That certificated teachers applying for exemption should, on the date of the application, have been in service, for not less than three consecutive years after *completion* of the Training Certificate by the Inspecting Officer. In the case of candidates in possession of a Trained Teacher's Certificate which has been raised from a Lower Grade to a Higher Grade, (Secondary Grade Trained Teacher's Certificate) a service of three years from the date of the issue of the Higher Grade Teachers' Certificate shall be insisted upon.

(iv) That every teacher should give a declaration when applying for exemption that he has adopted teaching as his profession and *has been in service as a Trained Certificated Teacher for not less than three consecutive years on the date of the application.*

II. *Matriculation Examination.*—In regard to applications from certificated teachers for exemption to appear for the Matriculation Examination it has been resolved—

(i) that applications be not entertained from Lower Elementary trained teachers;

(ii) that every applicant for Matriculation exemption should be at least a Higher Elementary trained teacher, and should further have completed a course of study in the Fourth Form, and qualified for promotion to the Fifth Form.

III. *Intermediate Examination.*—It has been resolved (i) that applicants for exemption to appear for the Intermediate Examination should be trained *certificated* teachers of the Secondary Grade and (ii) that they should either have passed the Matriculation Examination of the Madras University or an examination recognised as equivalent thereto or have been placed on the list of candidates declared eligible for admission to courses of study in the Madras University on the results of the S.S.L.C. or E.H. S. L. Examination; provided that two years must elapse between the date of passing the Matriculation Examination or other qualifying Examination and that of appearing for the Intermediate Examination.

Certificates of S.S.L. candidates issued prior to 1916, and certificates of candidates for the special examination under the S. S. L. C. Board for the benefit of teachers, will be scrutinized and each case will be decided on its merits according to the rules of eligibility in force at the time of the application.

IV. *B.A. Degree Examination.*—It has been resolved (i) that every teacher applying for exemption to appear for the B.A. Degree Examination should be a *certificated* teacher of the Secondary Grade and should have also passed the Intermediate Examination of the Madras University

or an examination recognised as equivalent thereto; provided that two years must elapse between the passing of the Intermediate or other qualifying examination and appearing for the B.A. Degree Examination; (ii) that if he proposes to appear for a Science Group which requires a practical training in a Laboratory, he should produce a certificate of having done the prescribed laboratory work from the Professor of a Constituent or an Affiliated first grade College countersigned by the Principal of that College.

Note.—The last dates for the receipt of applications for exemption in this office are the 1st October and 1st March preceding respectively March-April and September-October Examinations of any year.

Application from untrained teachers holding licenses granted by the Government of Madras, Travancore, Cochin or Hyderabad will not be considered.

Matriculation Examination is held only once a year in the month of March.

APPENDIX XXII.

Rules for award of Prizes for the encouragement of publication of works on modern subjects in Dravidian Languages.

---

(1) The object of the prize shall be to encourage the production of prose literature in the four South Indian Languages on modern subjects.

(2) The subjects in languages in which the award is to be made in a year shall be announced not less than two years and six months in advance of the date of award. The choice of subjects shall be made by the Syndicate after consulting the Boards of Studies concerned.

(3) Only complete works printed and published at least six clear months in advance of the date of award shall be taken into consideration. *Works by joint authors (say a scientist and a specialist in a language) will be accepted for the prizes.*

(4) The award shall be made by the Syndicate on the advice of *ad hoc* Committees of not less than three and not more than five persons to be appointed for each language, provided that the Chairman of the Board of Studies in the language concerned shall be one of the persons so appointed.

(5) Six copies of each of the words submitted for consideration shall be sent so as to reach the Registrar three clear months before the date of the award.

(6) The prize shall be awarded ordinarily to persons who are natives or are domiciled in the areas within the jurisdiction of the University.

(7) The amount of the award to be made in a year shall in no case exceed Rs. 1,000 in any one language.

(8) In awarding the prize the printing and get-up of the works shall also be taken into consideration.

(9) The Competitor shall certify that the work has not previously formed the basis for the award of any prize or title.

(10) The Syndicate may divide the prize among works of equal merit or decline to award the prize on the ground that none of the works submitted reaches the proper standard of merit.

APPENDIX XXIII.

UNIVERSITY PUBLICATIONS

I. TEXT-BOOKS

Names of Publications.	*Price.*	*Where available.*
i. S.S.L.C. Text-books 1935	Rs. A. P.	Mr. E. M. Gopalakrishna Kone, 158-A, Broadway, Madras.
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